
INVESTMENT ANALYSIS

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SECOND EDITION

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PREFACE

This book is designed both for the student of investments and for the investor himself, to each of whom the fundamental principles underlying the theory and practice of investing are important. The investor has a claim against or an interest in the issuer as evidenced, respectively, by the ownership of a bond or shares of stock. He is interested in the nature and the value of his claim or interest.

This book is divided into two parts: the nature of investments, and the analysis of corporate financial statements. The first part of the book discusses bonds, stocks, securities markets, and the security market operations with which the investor should be familiar. Since the return on an investment represents the relation between the capital invested and the income received, attention is given to prices and yields of securities by a discussion of investment mathematics. Federal legislation has made especially necessary a description of the methods by which new security issues are offered to the public. Since the investor is faced with the practical problem of formulating and following an investment policy and a program adapted to his individual needs, investment policies are discussed in a separate chapter. The important position achieved by the investment company as an investment medium is recognized by an explanation of its functions and operations. The securities available for direct investment may be classed as those of public issuers and those of private corporate issuers. The nature of the public issues is described in chapters on the obligations of the federal government, state governments, and municipal governments.

The presentation of private corporate securities is somewhat different from the usual practice of discussing railroad, public utility, and industrial securities separately. The basic source of information available to the investor is the official report of the company. The presentation of railroad, public utility, and industrial securities followed in this book is based on the belief (a) that the financial statement of the company presents a picture of the nature of the

operations of the company and can be made more understandable if interpreted in terms of those operations, (b) that the investor is seeking essentially the same kind of information in the analysis of a company whether it is a railroad, public utility, or industrial company, and (c) that there are probably more elements of similarity than of dissimilarity in the methods of applying accepted tests of investment quality.

For these reasons the presentation first seeks to establish an understanding of the basic significance of the financial statements and of the operations of the company by a discussion of the income statement, the balance sheet, the statement of surplus, and the reserves which the company has established. On the basis of the financial statements, as interpreted, the presentation seeks to determine the company's working capital position, its maintenance and depreciation policy, the relation of its fixed capital investment and its capital structure, and the earning power as evidenced by an analysis of the income statement.

In order that the reader might find continuity in the analysis, the same companies are used in each discussion, with variations illustrated by data from other companies. Such presentation should permit him to follow each computation back to its original source in the financial statement. The practice sometimes followed of illustrating each calculation with a new example limits the reader to the data presented in the illustration and does not afford him an opportunity to determine the source of the data. The analyses of a bank statement and of a fire insurance company statement are treated in separate chapters. The names assigned to the statements analyzed, such as Norrestern & West Railway, Turabine Electric Light Company, Straddlerocke Products Corporation, Vista National Bank, and Westford Fire Insurance Company, are purely fictitious and are given solely for the purpose of identification. Turabine Electric Light Company is a steam-generated power company and Straddlerocke Products Corporation is engaged in the dairy products industry.

The appendix seeks to provide the reader with supplementary materials useful in more readily understanding investment practices. It includes a condensed statement of the commonly used sources of information and of the essential features of the financial page. Ready reference to the forms used in the field is provided by the reproduction of a customer's agreement, option contracts, invitation for bids on the sale of securities, and announcement forms.

A complete set of financial statements for analysis practice is included for the convenience of both teacher and student.

The author gratefully acknowledges the many helpful suggestions of his colleagues, Professors Saul B. Ackerman, Jules I. Bogen, Albert F. Chapin, Clarence W. Fackler, Major B. Foster, Sipa Heller, Thatcher C. Jones, Guy D. Plunkett, and William S. Schlauch. He is also indebted for the comments of his friends in the financial field, especially Messrs. Cushman McGee, Edward T. Reilly, E. Allan Reinhardt, and Stephen M. Jaquith. He is appreciative also of the valuable assistance of Miss Alice Dembska in preparing the revised manuscript.

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INVESTMENT ANALYSIS

CHAPTER ONE

INTRODUCTION

Investment. Investment is the productive employment of capital. The investor relinquishes his capital for employment by the issuer of a security in exchange for either a creditor's claim, as evidenced by a bond, or an owner's interest, as evidenced by a share of stock. The investor's primary purpose in making the commitment is to receive a return. The qualification "productive" does not refer to the nature of the use made of the capital by the issuer of the security, but rather to the production of a return on the capital to the investor. A loan made to the federal government through the purchase of a government bond is productive to the bondholder even when the government borrows the funds in order to finance a budgetary deficit. So long as a bond or a share of stock yields a return to the investor it is "productive." A true investment produces income to the security holder.

Risk. Every commitment of capital involves risk of loss of capital. One security differs from another security not in the absence or presence of risk but rather in the degree of risk incurred. Although there is no clear line of demarcation between the investor and the speculator, there are some general differentiating characteristics. The investor wishes to reduce the degree of risk to a minimum whereas the speculator openly accepts a high degree of risk. The investor expects to keep his capital invested in the security for a longer period than the speculator who plans to dispose of the security within a more limited period. The investor is satisfied with the receipt of regular income in contrast with the speculator to whom profit through appreciation in value is more important. Since the return must be consistent with the degree of risk, the investor in seeking a low degree of risk must accept a moderate return, whereas the speculator expects either a high income or cap-

ital appreciation as compensation for the high degree of risk which he assumes.

Capital market. The demand for capital arises from public borrowers such as federal, state, and municipal governments and from private issuers such as railroad, public utility, industrial, financial, and real estate companies. In general, the sources of capital to a corporation may be classed as internal or external. The internal source refers to accumulated surplus earnings which are available for reinvestment by the corporation. A corporation which has built up a surplus from the earnings of past years may utilize that surplus to finance expansion. The external source refers to the capital market which supplies funds through the purchase of new securities. A corporation in need of capital may seek to obtain it through the sale of securities in the capital market.

New and refunding capital. The capital sought by a corporation may be for new capital or for refunding purposes. New capital demand represents the need for additional capital to finance the expansion of a company. A company that plans to construct new plants, buy new equipment, or finance expanding inventories may sell a bond or stock issue and thereby bring new capital into the company. The Dayton Rubber Manufacturing Company, for example, sold 50,000 shares of common stock in order to finance the completion of its plant expansion program. American Tobacco Company issued \$200,000,000 of debentures in order to finance rising dollar volume of leaf tobacco.

The demand for refunding purposes represents the raising of capital to retire existing obligations. A company may retire an existing 4 per cent bond issue with the proceeds of a new issue of $3\frac{1}{2}$ per cent bonds or may retire a maturing obligation by the sale of a new issue. Armour & Company, for example, redeemed its series B and C 4 per cent first mortgage bonds from the proceeds of the sale of a series E $3\frac{1}{4}$ per cent first mortgage bonds and $2\frac{1}{4}$ per cent serial promissory notes. Kansas City Southern Railway, anticipating maturing obligations, of which the principal issue was the \$26,950,000 first mortgage 3s of April 1, 1950, met these maturities by the issuance of \$40,000,000 of first mortgage 4s due in 1975 and \$6,000,000 of $2\frac{3}{8}$ per cent serial notes. A refunding operation does not bring new or additional capital into the company but simply replaces one issue with another.

Bonds and stocks. Capital is obtained through the sale of bonds or stocks. The sale of stock as a means of raising capital is usually

popular during periods of business expansion; bonds are more commonly employed in periods of business stagnation.

Sources of capital. Basically the true source of capital is the savings capacity of the people and is limited only by their ability and willingness to accumulate capital. The individual who consumes all his income does not have a surplus of income over outgo and hence, because of the absence of savings, is not in a position to accumulate capital. On the other hand, the one whose income exceeds his expenditures has a surplus of income and is in a position to accumulate capital. His willingness to limit consumption in order to provide a surplus is based on the belief that the surplus will be more valuable to him at a future time and, as a result, he is willing to postpone immediate consumption of the surplus. The formation of capital, therefore, is based upon both productivity and a willingness to save.

Investment channels. The capital accumulated by the individual, however, is of no significance to the capital market and does not contribute to the effective market supply unless it is made available in the market. The individual who saves \$10 a week and puts it in the dresser drawer is saving, but his savings do not constitute a part of the supply in the capital market and cannot until he makes his savings available in the market. His willingness to contribute his capital to the effective market supply, however, is motivated by a desire to put it to productive use in order to obtain an income from it. The capital of investors may reach the capital market either directly through the purchase of securities or indirectly through the deposit of the savings with such financial institutions as savings banks, savings and loan associations, and life insurance companies. Investors who seek to invest their capital directly may purchase newly issued securities or securities that are outstanding in the market. Those securities may be purchased either on a national securities exchange or in the over-the-counter market. The capital placed with savings institutions and with life insurance companies finds its way into the capital market through the purchase of securities by those institutional investors.

Problem of the investor. The investor who seeks productive employment for his capital is faced with two problems in selecting securities that will provide for him an adequate degree of safety of his principal and a stable income. In the first place, he has his choice of accepting the position of a creditor by the purchase of bonds or of an owner through the purchase of stock. As a bond-

holder he has a claim against the issuer, but the nature of his claim will depend upon the terms of the investment contract, which are stated in the indenture under which the bonds have been issued. On the other hand, as a stockholder he is an owner and as such has an interest in, rather than a claim against, the corporation. In the second place, he must determine the value of the security. This involves an analysis of the financial strength of the issuer. His problem, therefore, is to determine the degree of safety of principal and of income offered by the particular security and to select the security that meets his financial needs.

Review Questions

1. Define "investment."
2. Distinguish between the point of view of the investor and the speculator.
3. Distinguish between internal and external sources of capital.
4. What is meant by the "capital market"?
5. Name the sources of demand for capital.
6. Indicate the purposes for which capital is demanded.
7. Explain the relation of the demand for new capital and for refunding capital, respectively, to the business cycle.
8. Name two methods of raising capital in the capital market.
9. Explain the basic source of capital.
10. Indicate the channels through which capital flows into the capital market.
11. Discuss the problem of the investor.

Assignment

- (a) A company with a \$30,000,000 bond issue due June 1, 1950, raised \$50,000,000 on May 1, 1950, through the issue of a 3 per cent debenture bond due May 1, 1975. On the basis of the following data explain whether this \$50,000,000 issue represented new or refunding capital: (000)

| | <i>Before</i> | | <i>After</i> | |
|----------------------|-----------------------|----------|--------------|----------|
| Funded Debt..... | 4½s, due June 1, 1950 | \$30,000 | 3s of 1975 | \$50,000 |
| Plant Account | | 10,000 | | 18,000 |
| Working Capital..... | | 35,000 | | 47,000 |

Explain your answer.

- (b) In a recent year \$2,885,000,000 of new securities were issued by corporations and the proceeds used for the following purposes:

| | |
|---------------------------------------|----------------|
| Additions to plant and equipment..... | \$ 224,000,000 |
| Retirement of bonds and notes..... | 1,972,000,000 |
| Additions to working capital..... | 351,000,000 |
| Retirement of preferred stocks..... | 338,000,000 |

Indicate the total amounts that represented new capital and refunding capital, respectively, and explain.

CHAPTER TWO

BONDS

Introduction. A bond is an evidence of debt under which the issuer agrees to repay the principal at a stated future date and to pay interest at a stipulated annual rate during the life of the bond. A \$35,000,000 issue of General Foods Corporation debenture bonds, for example, was issued July 1, 1951 and will be due July 1, 1976. Interest is payable at the annual rate of $3\frac{3}{8}$ per cent. Each bond represents part of a large issue that has been divided into small units for convenience in distribution. Although the usual face amount of a bond is \$1,000, some bonds are also issued in \$500 denominations.

Interest payments. Interest payments at the fixed annual rate stated on the bond are usually made semi-annually. Although the interest payment dates may be January 1 and July 1, they may also be other dates such as January 15 and July 15, March 1 and September 1, April 1 and October 1, May 1 and November 1, or June 1 and December 1. Interest payment is made either upon presentation of the appropriate coupon (for coupon bonds) or by check sent directly to the bondholder by the issuer (for registered bonds).¹

Bondholder's claim. The basic relationship between the issuer and the bondholder is that of debtor and creditor. The bondholder is a creditor and has a claim against the issuer. The bondholder is confronted with two important problems: (a) the nature of the claim and (b) the value of the claim. The nature of the claim cannot be judged by the title of the bond; it can be determined only by reference to the bond indenture. The indenture states the terms under which the bond was issued. Careful analysis of the indenture reveals the nature and character of the claim. It is especially essential for the bondholder to determine the nature of his claim in the event of default on the part of the issuer. The

¹ See page 15 for discussion of coupon and registered bonds.

value of the claim, on the other hand, depends not only upon the nature of the claim but also upon the financial condition of the issuer. For this reason it is even more important that the bondholder measure the ability of the issuer to pay the interest and to repay the principal.

Classes of bonds. Bonds may be classed as secured or unsecured obligations. In a secured bond, the issuer reinforces its promise to pay the interest and principal in accordance with the indenture by a pledge of specific property as evidenced in a mortgage bond, a collateral trust note, or an equipment trust certificate or note. In an unsecured or debenture bond, on the other hand, the issuer merely promises to pay the interest and principal as stated in the indenture.

Deed of trust. In every corporate bond issue a trustee is appointed by the issuer. The relationship between the issuer and the trustee is expressed in a deed of trust, which sets forth the duties and powers of the trustee and the relation of the trustee to the issuer and to the bondholders. The trustee authenticates the individual bonds and represents the bondholders in the protection of their rights.² All mortgages, deeds of trust, and other indentures under which bonds, notes, and other evidences of indebtedness are issued are subject to the Trust Indenture Act of 1939, unless specifically exempt. Under the Act a trustee must be "a corporation organized to do business under the laws of the United States or of any state or territory . . . which is authorized under such laws to exercise corporate trust powers, and is subject to supervision or examination by federal, state, or territorial authority."

The Act is administered by the Securities and Exchange Commission and applies to (a) securities required to be registered under the Securities Act of 1933³ and (b) securities issued in exchange for other securities of the same corporation or under a reorganization plan approved by a court, which are not required to be registered.

Mortgage bond. A mortgage bond is secured by a lien on specific property. The lien granted may be upon all or part of the property owned by the issuer. The lien in public utility and industrial bonds is usually upon all of the issuer's property. For example, Alabama Power Company first mortgage 3½s of 1972 issued

² The authentication merely states that the bond is one of the bonds described in the mortgage and deed of trust.

³ See Chapter Seven for discussion of registration of securities.

in 1942 were secured by a mortgage on the entire physical property of the company. Similarly, the B. F. Goodrich first mortgage $2\frac{3}{4}$ s of 1965 are a lien on all the company's fixed assets. On the other hand, the lien granted under a railroad bond is usually upon a specific portion of the property. For example, the Lake Shore & Michigan Southern Railway $3\frac{1}{2}$ s of 1997, assumed by the New York Central Railroad, are secured by a first lien on 961 miles of road running from Buffalo to Chicago.

After-acquired clause. Some corporate mortgage bond indentures contain an "after-acquired" clause which provides that all property "hereinafter acquired" becomes subject to the mortgage. The trust indenture securing Union Electric Company of Missouri first mortgage and collateral trust $3\frac{3}{8}$ s of 1971, issued in 1941 provided that the bonds were secured by a direct first lien on all the company's properties and franchises "now owned or hereafter acquired." Under this clause, new property acquired in the ordinary way becomes subject to the mortgage; that is, the mortgage becomes a lien on the new property. In the event the company subsequently places another mortgage on the newly acquired property, the new mortgage would have a lien subordinate to that of the original mortgage whose lien, by virtue of the after-acquired clause, would have rested on the property as soon as it was acquired.⁴

Senior and junior liens. Mortgage bonds are either senior or junior liens, depending upon the priority of claim. First mortgage bonds are senior or underlying liens, since they have first claim upon both earnings and assets. Duquesne Light Company first mortgage $2\frac{3}{4}$ s of 1977 are secured by a first mortgage and lien on all fixed property owned by the company. Junior lien bonds, on the other hand, have a secondary claim upon the corporate property and as such are subordinate to the claims of the senior mortgage. The relative position of bonds, especially junior bonds, is not always clearly indicated by the title. Corporations sometimes employ such ambiguous titles as "general," "unified," "consolidated," "first refunding," or "first leasehold." The order of priority of a specific bond can be determined only by reference to the indenture under which it was issued. Kentucky Utilities Company sinking fund mortgage $4\frac{1}{2}$ s of 1955 were secured by a lien on the company's property but subordinated to the lien held by the first mortgage 4 s

⁴ Many methods have been devised whereby the "after-acquired" clause may be circumvented: by the use of a purchase money mortgage, by a subsidiary company to acquire new property, by lease of new property instead of direct purchase, or by consolidation of issuer with other companies.

of 1970. Obviously a senior bond is considered superior to a junior bond of the same company.

Prior lien bonds are bonds that have a lien prior to other bonds. They usually arise out of a corporate financial reorganization. For example, Missouri-Kansas-Texas Railroad issued prior lien bonds series A (1962) and series B (1962) in 1922, series D (1978) in 1928, series E (1975) in 1935, and series F (1962) in 1946, which were a lien on the property prior to the cumulative adjustment mortgage 5s, series A, of 1967. A prior lien bond, however, does not necessarily constitute a senior lien. Although it may be senior to some bonds of the issuer, nevertheless it may be junior to other bonds. For example, the Erie Railroad consolidated prior lien 4s of 1957 and 1995 were a senior issue of the company but junior to three issues of a predecessor company which were not disturbed in a reorganization. As a practical matter the Erie prior lien bonds were a fourth lien on the main line of the system.

Amount of issue. The principal amount of bonds that may be outstanding under the mortgage is governed by whether the mortgage is (a) closed end, (b) open end, or (c) limited open end.

Closed end. Under the closed end type the principal amount of bonds which may be issued under the mortgage is specified in the indenture, and all the bonds are usually issued at the one time. For example, the principal amount of bonds which could be issued under Northern Pacific Railway general lien 3s of 2047 was \$60,000,000. From the standpoint of the bondholder, he knows at the time of issuance the maximum principal amount of bonds that can be secured by his mortgage. At no future time can the company issue additional bonds under the same mortgage and thereby reduce the original bondholder's proportionate interest. If the issuer needs to borrow additional capital prior to the repayment of those bonds, it may do so but only under a junior mortgage.

Open end. For the open end type of mortgage the indenture simply authorizes the issuance of bonds without specifying the maximum principal amount that may be issued. For example, the West Texas Utilities Company first mortgage series A $3\frac{1}{8}$ s of 1973 were the initial series of bonds issued under and secured by the indenture. The indenture did not limit the aggregate principal amount of bonds that could be outstanding under the mortgage. In fact, the company subsequently issued series B 3s of 1978. The various issues of bonds under such a mortgage, though some may be dated years ahead of others, have no priority one over the other;

in case of foreclosure, all holders will share *pari passu* in the proceeds. West Texas Utilities Company first mortgage series A 3 $\frac{1}{8}$ s of 1973 would rank equally and ratably with all bonds regardless of the series subsequently issued and outstanding under the indenture. From the standpoint of the issuer, it may issue bonds in any amount and at any time it sees fit, so long as it can find purchasers for additional bonds. In most instances, however, the indenture contains escrow provisions that seek to protect the bondholder against an excessive issue of bonds.

Limited open end. The limited open end mortgage is a compromise between the closed end and the open end types. It is similar to the closed end in that the indenture specifies the definite maximum principal amount of bonds that may be issued; it is similar to the open end in that the bonds, within the principal amount stated, may be issued in different groups from time to time. If a corporation whose financial plan calls for the raising of \$10,000,000 now and \$15,000,000 four years later were to issue a first mortgage bond for \$10,000,000 now, it could offer no better lien than a second mortgage when it issued \$15,000,000 of bonds four years hence. Under the limited open end mortgage authorizing a first mortgage for \$25,000,000, the corporation may issue \$10,000,000 of bonds now; and four years hence it may issue an additional \$15,000,000 of bonds under the same mortgage, namely a first mortgage. From the standpoint of the bondholder who buys bonds of the original issue, the maximum that may be outstanding under the mortgage is \$25,000,000. The Cudahy Packing Company first mortgage sinking fund 3 per cent, series B, bonds of 1964, for example, were issued under a limited open end mortgage. The indenture authorized \$30,000,000 but the initial issue of May, 1944 amounted to only \$14,000,000. Under the indenture, the company was free to issue an additional \$16,000,000 principal amount of bonds under the same mortgage.⁵ The rule that "priority in time gives priority in equity" is void, however, in that all the bonds issued under the mortgage, whenever issued, share alike in the proceeds of any foreclosure.

Collateral trust notes. A collateral trust note is secured by a pledge of specific securities, in contrast to the mortgage bond, which is secured by a lien on real property. The securities pledged consist of stocks, bonds, or stocks and bonds which are owned by the corporation issuing the collateral trust note.

⁵ The indenture specified certain limitations under which the company could issue bonds in excess of \$30,000,000.

The collateral pledged is placed with the trustee to whom title is transferred. The trustee remits to the corporation the income received from the pledged securities and, in the instance of stock, the proxies which may be issued on the stock. In the event of default, the trustee enforces the claim of the bondholders against the pledged securities by directing payment to him of dividends and interest paid on the pledged securities and by revoking proxies on the stock pledged. Provisions defining the trustee's power to sell the collateral at public or private sale upon default by the corporation are included in the trust indenture.

Changes in collateral. In some instances the trust indenture may permit the corporation to withdraw part of the collateral upon (a) the substitution of an equivalent amount of cash or other securities of equal quality and value or (b) the retirement of part of the issue. On the other hand, some collateral trust note indentures do not provide for the release of deposited collateral with the retirement of any part of the notes. In such instances the notes become increasingly well secured by the value of the collateral as the company redeems portions of the issue.

The investor, however, must give careful consideration to any terms under which substitution may be made for pledged securities. The famous Kreuger & Toll failure revealed the danger of permitting a substitution of securities on a par-for-par basis.⁶ The trust indenture may also provide that, in the event of depreciation in the value of the securities pledged, the corporation is required to deposit additional money or securities to make good the deficiency.

Issuers. Collateral trust notes are usually issued by holding companies, investment trusts, and finance companies, none of which is in a position to pledge real property required under a mortgage. The nature of the collateral differs somewhat according to the type of issuer. Holding companies usually pledge a few securities in large blocks, whereas investment trusts generally pledge a wide variety of securities in small blocks. Finance companies, on the other hand, customarily pledge their notes and accounts receivable.

⁶The Kreuger & Toll world match empire collapsed in 1932 and was followed by the bankruptcy of International Match Corporation, the largest subsidiary of the group. The bankruptcy of International Match was precipitated by the suicide of Ivar Kreuger in Paris on March 12, 1932. The bankrupt's books listed assets of over \$220,000,000, most of which proved to be fictitious. The most valuable assets of the estate had been stolen and squandered by Kreuger. Among the largest of his many defalcations and frauds was the theft of \$50,000,000 of German Government bonds and the forgery of \$102,000,000 of Italian Government bonds which he had used to create a fictitious asset for a subsidiary of International Match.

Investment position. Collateral trust notes as a class do not have a good investment record. The strength of the note lies not so much with the amount of the collateral pledged as with the credit standing of the companies whose securities have been pledged as collateral. This is especially true where the collateral consists of common stocks which, in turn, may be junior securities of a company which has an issue of bonds or preferred stocks outstanding.

Equipment trust obligations. Equipment trust obligations are issued to finance the purchase of rolling stock by railroads on the installment plan.⁷ For example, the Great Northern Railway 27/8 per cent equipment trust certificates of 1951 were issued to finance the acquisition of 1,000 box cars, 250 gondola cars, 100 covered hopper cars, and 39 Diesel-electric road-switching locomotives.

Maturity. Equipment trust obligations mature serially. The Great North Railway 27/8s were dated April 1, 1951, with \$358,000 principal amount maturing each April 1 and October 1 from October 1, 1951 to April 1, 1966.

Lease plan. Equipment trust obligations are issued either under the Philadelphia or lease plan, in the form of certificates, or under the conditional sale plan, in the form of notes. Under the lease plan the railroad arranges with the manufacturer for the acquisition of the equipment and for the creation of an equipment trust under which title to the equipment is placed with a trustee—usually a trust company—for the benefit of the certificate holders. The equipment is leased to the railroad by the trustee. The initial cash payment made to the trustee by the railroad is regarded as “advance rental” and, under the lease, the railroad pays annual rental to the trustee. This annual rental is the amount necessary to pay the par value of the certificate and the dividend warrants as they become due as well as all reasonable expenses of the trust. The annual payments received by investors on the equipment trust certificates are called “dividends.” Since the investor legally is not a direct creditor of the railroad but rather a part owner in certain leased equipment held by the trustee, his instrument is not a bond but an equipment trust certificate, and his income is not interest but a dividend or rental payment. On the other hand, through the creation of the trust, the certificate owners are the beneficiaries of a fixed claim upon the lessee railroad and in effect, therefore, are

⁷ They also circumvent the after-acquired property clause in the railroad's mortgage indentures and give the holders of the equipment trust obligation a prior lien on the equipment acquired.

indirect creditors. The equipment securing the Great Northern Railway 2 $\frac{7}{8}$ s, 1951-1966, had an estimated cost of \$13,447,500 of which \$2,707,500 was paid in cash and \$10,740,000 was raised through the sale of the equipment trust certificates. Title to the equipment passes to the railroad only upon the payment of the final installment of equipment trust certificates.

Until recently the usual initial payment by the railroad approximated 25 per cent of the cost, the total amount borrowed through equipment trust certificates was about 75 per cent of the cost, and the certificates matured over a period of one to twenty years. Recent issues, however, have been featured by a reduction in the amount of cash payment and in the maturity period. In the instance of the Great Northern Railway 2 $\frac{7}{8}$ s, 1951-1966, the agreement provided for a 20 per cent cash payment and a maximum maturity of fifteen years.

The equipment trust certificates under the lease plan are issued by the trustee. It is usual to attach a plate to each unit of rolling stock securing the issue stating that the owner is the trustee. The railroad obligates itself to keep the equipment in repair, to replace destroyed units, and to pay any taxes levied on the equipment. The railroad usually guarantees the certificates issued by the trustee as to principal and dividend. The purpose of the guaranty is to enable the certificates to meet the requirements of legal investment laws of various states which usually provide for investment in securities issued or guaranteed by a railroad. The equipment 2 $\frac{7}{8}$ s, 1951-1966 of the Great Northern Railway, for example, are guaranteed unconditionally as to par value and dividends by the Great Northern Railway. This guarantee (that the railroad will carry out its lease obligation) gives the certificate holder a direct claim against the railroad.

Conditional sale plan. Under the conditional sale plan the equipment is purchased from the trustee under a conditional bill of sale.⁸ The railroad finances the purchase of the equipment through the issuance of equipment trust notes. The purchaser of the notes agrees to pay the builder of the equipment, when the equipment is delivered to the railroad, the cost of the equipment less the advanced payment made by the railroad; and the equipment builder assigns all his rights under the conditional sale contract to the purchaser. The equipment trust notes are issued successively over a period of months as the equipment is delivered.

⁸ See Appendix E, "Invitation for bids on sale of securities," page 517.

The annual payment received by holders of the notes is called "interest."

The conditional sales plan has several limitations. First, in certain states a conditional sale contract is not valid against claims of third parties. Second, the practice of dating the notes to correspond with the delivery date of the equipment makes them unsuited for purchase by investment firms for resale to investors. The conditional sales plan is confined largely to issues purchased privately by large banks for their own accounts. Whereas the conditional sale plan is satisfactory for the financing of relatively small amounts, the Philadelphia plan is superior for larger amounts since the issue can be sold more extensively.

Investment position. Equipment trust obligations are usually regarded as excellent investments because of (a) the essential nature of the property securing the issue; (b) the mobility and divisibility, which facilitate repossession; and (c) the gradual increase in the equity behind the issue, arising from the fact that the debt is retired at a more rapid rate than the depreciation of the property. The excellent record is evidenced by the very small number of instances of default and consequent loss to investors. In the event of default, the trustee may require the railroad to assemble the equipment at a designated point on its line, may take possession, and may sell it for the benefit of the certificate holders. The right to take possession in event of default is specifically protected under Section 77 of the Bankruptcy Act, which provides that:

The title of any owner, whether as trustee or otherwise, to rolling stock equipment leased or conditionally sold to the debtor, and any right of such owner to take possession of such property in compliance with the provisions of any such lease or conditional sale contract, shall not be affected by the provisions of this section.

Receivers and trustees in charge of railroads in insolvency usually continue to pay rental charges on equipment trust obligations while permitting interest on mortgage bonds of the company to remain in default.⁹

Debenture bonds. A debenture bond is an unsecured obligation which, unlike the bond secured by a mortgage, by collateral, or by equipment, is protected solely by the credit of the issuer. In the event of default, the holder of a corporate debenture may sue the issuer only as a general creditor. Inasmuch as debentures are protected only by a promise to pay, it follows that they can be sold to

⁹ Recently the equipment trust method of financing used by railroads has been used by some air transport companies in the acquisition of planes.

the public only by issuers who enjoy the highest credit standing. Debenture bonds are issued by governmental bodies (federal, state, and municipal) and may be issued by corporations. The domestic direct obligations of federal, state, and municipal governments are always debentures. Typical of corporate issues is National Dairy Products debenture 2¾s, due 1970, which are a direct obligation of the company but are not secured.

Priority of claim. Corporate debentures may be senior or junior claims. Some debenture bonds, in the absence of prior secured obligations, have a senior claim as in the instance of International Business Machines Corporation debenture 2¼s of 1958. Since this company has no secured bonds outstanding, the debentures are a senior issue. A debenture bond, however, is junior to any mortgage bond issued prior to or subsequent to it. For example, the 3¾ per cent debentures of 1959 issued by the Mengel Company became a senior after the retirement of the first mortgage 4½s of 1947. Under this debenture indenture, however, any future indebtedness created by the company would rank *pari passu* with the debentures, but if the subsequent debt were secured it would constitute a charge on the property or assets so pledged prior to the claim of the debentures.

Covenant of equal coverage. A corporate debenture bond which may be a senior bond at the time of issue may subsequently become a junior lien as the result of the issuance of a mortgage bond. In order to protect the debenture bondholders against the subsequent subordination of their claim, some debenture indentures contain a covenant of equal coverage. Under this clause, the issuer agrees to secure the debentures ratably with any mortgage bond that may be issued in the future. For example, the indenture under which Lorillard Company issued the debenture 3s of 1963 provided that the company could not mortgage or pledge any property without equally securing those debentures. This clause enables debenture bondholders to become secured bondholders concurrently with any subsequent secured bondholders. In some states, such as Massachusetts, the law requires that debentures be secured equally with any mortgage subsequently placed upon the properties. When, for example, the Boston & Albany Railroad, with several debenture issues outstanding, sold an issue of first mortgage 4½s, the debentures immediately became equally secured under that mortgage.

Secured v. unsecured bonds. The bondholder seeks safety of principal and of income which, in the last analysis, depends upon

the solvency and the financial stability of the issuer. The holder of a secured bond must bear in mind that the pledging of property is not necessarily assurance that the debt will be paid in full. Foreclosure on the property in the event of default may not yield sufficient proceeds to meet the obligation in full.¹⁰ In comparing debentures as a class with secured bonds as a class, it is apparent that the true test of any bond should be the ability of the obligor to meet its obligations rather than the amount of property securing it. If satisfactory evidence of ability to pay is available, a debenture bond of one company may be as sound as a first mortgage bond of another company.

Bond features. Although basically a bond is either secured or unsecured, bond indentures also contain other features which are equally important to the bondholder, such as the form of bond, a guarantee of the payment of the interest and principal, the maturity date, stock options, and provisions for the retirement of the bond.

Form of bond. The initial delivery of bonds of a new issue is usually in the form of temporary bonds pending the preparation of the definitive bonds. In the meantime, the temporary bonds are evidence of ownership and may be transferred by sale. When the definitive bonds are ready, they are exchanged for the temporary bonds without charge to the holders of the temporary bonds.

The definitive bonds may be registered or coupon in form. A registered bond is one that is registered in the name of the owner. It may be registered as to principal and interest, which means that the ownership of the bond can be transferred only with the endorsement of the registered owner and that interest will be paid by check addressed to the registered owner. On the other hand, it may be registered as to "principal only," so that ownership may be transferred only with the endorsement of the registered owner. The interest, however, is paid upon presentation of the appropriate coupon when due. Bonds are usually registered as to principal as a matter of protection and as to interest as a matter of convenience. A coupon bond, in contrast to a fully registered bond, is payable to the bearer and carries detachable interest coupons. Ownership may be transferred by simple delivery. Interest is collected by presentation of the appropriate coupon when due.

The Mengel Company 3¾ per cent sinking fund debentures of 1959 were issued in coupon form in denominations of \$1,000 and

¹⁰ The mortgage bondholder becomes a general creditor for the unpaid balance.

\$500 and were registerable as to principal only. Principal was payable at the Guaranty Trust Company of New York, and interest was payable at the option of the holder at the Guaranty Trust Company of New York, at the Mercantile Commerce Bank & Trust Company of St. Louis, Missouri, or at the Kentucky Title Trust Company of Louisville, Kentucky. The Lorillard debenture 3s of 1963, on the other hand, were issued either as coupon bonds registerable as to principal or as fully registered (principal and interest) bonds. The coupon bonds were issued in denominations of \$1,000; the registered bonds were issued in denominations of \$1,000 and \$5,000.¹¹ Bondholders were given the privilege, however, of later exchanging one form for the other in like aggregate principal amounts upon payment of a stipulated charge.

Guaranteed bonds. Guaranteed bonds are those the principal and interest or only the interest of which is guaranteed by a company other than the issuer. They are found largely in the railroad field and arise from the fact that one railroad has leased another railroad. For example, the Pennsylvania Railroad Company operates only from Philadelphia to Pittsburgh, but the Pennsylvania Railroad System includes important leased lines such as the United New Jersey (New York to Philadelphia); Philadelphia, Baltimore & Washington (Philadelphia to Washington); Pittsburgh, Fort Wayne & Chicago (Pittsburgh to Chicago); and the Pan Handle (Pittsburgh to St. Louis). Those roads are leased by the Pennsylvania Railroad Company, which guarantees the bonds of the leased lines.

The guarantee usually reads:

"The . . . Railroad Company . . . for value received, hereby unconditionally guarantees to the holder hereof . . . the due and punctual payment of the principal of and interest on the within bond . . . when due. . . ."

Although many guarantees cover both principal and interest, the guarantee sometimes applies to interest only. For example, in the instance of the Albany & Susquehanna Railroad general 4½s, of 1975, the payment of principal, interest, and sinking fund was assumed by Delaware & Hudson Railroad and guaranteed by Delaware & Hudson Company by endorsement. On the other hand, the payment of interest and sinking fund only on Rensselaer & Saratoga Railroad first 4s, due 1961, was guaranteed by the Delaware & Hudson Railroad.

¹¹ The company was authorized to issue the registered bonds in higher denominations.

Significance of guarantee. The guarantee adds little to the bond besides the credit of the guarantor. In the event of the inability of the obligor to pay interest or principal when due, the holder must look to the guarantor for payment. This implies two additional considerations in determining the investment merits of the guaranteed bond: (a) the value of the property of the obligor to the guarantor and (b) the financial strength of the guarantor. The West Shore Railroad first 4s of 2361 are secured by a mortgage on 456 miles of road extending from Weehawken, New Jersey, to Buffalo, New York, and on extensive terminal facilities, ferries, and warehouse facilities. They are guaranteed as to principal and interest by the New York Central Railroad, which leases the West Shore Railroad. The principal value of the West Shore Railroad to the New York Central is that it provides a line for through north and south freight, thus avoiding the congestion and lighterage at New York City. A contrasting situation occurred in the instance of the Atlantic & Danville Railway first mortgage 4s of 1948 and the second mortgage 4s of 1948. The railway was leased by the Southern Railway, and under the lease the interest, but not the principal, on the bonds was paid by the Southern Railway. The lease would have expired July 1, 1949, but the Southern Railway had the option of renewal. In April, 1944, when railroad bond prices in general were advancing, the prices on the bonds moved downward, and this reflected a belief that the Southern Railway would not elect to renew its lease of the properties. This belief was confirmed when it was disclosed on June 29, 1944, that the Southern Railway would not exercise the option to renew. It was understood that the low traffic density on the railroad materially reduced the value of the road to the Southern Railway. The Atlantic & Danville was originally intended as an alternative route to Norfolk, Virginia, but it did not succeed in attracting a sufficient volume of traffic. For some time the Southern Railway had been moving its through-freight over the Atlantic Coast Line Railroad under a trackage agreement and had been using the Atlantic & Danville only for moving local freight. The Southern Railway paid the Atlantic & Danville Railway \$3,000,000 in settlement of litigation and the latter again became an operating railroad in 1949. Under a Securities Modification Plan approved by the Interstate Commerce Commission and the bondholders, both issues were exchanged for new fifty-year bonds carrying interest of 3 per cent. The 3 per cent rate was contingent upon earnings and cumulative up to 9 per cent

during the period July 1, 1949 to July 1, 1954 and "fixed" thereafter. The holders of each \$1,000 first mortgage bond received \$440 cash, a new bond for \$600, and two shares of common stock. The holders of each \$1,000 second mortgage bond received \$290 cash, a new bond for \$750, and one share of common stock.

The investment position of a guaranteed bond depends primarily upon the value of the underlying property and secondarily upon the credit standing of the guaranteeing company. The Erie Railroad, for example, guaranteed the bonds of the New York, Pennsylvania & Ohio Railroad and of the New York, Susquehanna & Western Railroad. Inasmuch as the New York, Susquehanna & Western Railroad's mileage was not very profitable, it was entirely omitted in the plan of reorganization of the Erie Railroad, whereas the New York, Pennsylvania & Ohio Railroad, because of its heavy traffic density, was unaffected. Michigan Central Railroad first mortgage 3½s of 1952 are secured by a first mortgage on 272 miles of line from Detroit, Michigan, to Kensington, Illinois, and are guaranteed as to both principal and interest by the New York Central Railroad under a lease of the Michigan Central's property. The 1,480 miles of road owned by the Michigan Central is an important part of the New York Central System. These bonds were selling at a premium at the same time that the New York Central issues were selling at large discounts.

Railroad bridge bonds. Two special types of guaranteed railroad bonds are bridge bonds and terminal bonds. The New York Connecting Railroad Company, which is owned jointly by the Pennsylvania and the New Haven railroads, has outstanding first mortgage, series B, 27½s of 1975, which are a lien against the Hell Gate Bridge in New York City. The Pennsylvania and the New Haven, which both use the bridge, guarantee the bonds jointly and severally as to principal and interest. The strategic importance to the parent companies of the property underlying the bonds gives them a high rating.

Terminal bonds. Terminal bonds are issued by railroad associations formed by a group of railroad companies for the purpose of constructing terminal facilities in large cities, to be used by all of the participating companies. The companies involved usually assume proportionate responsibility for all the operating and financial expenses of the association either separately (severally) or collectively (jointly). For example, the Cincinnati Union Terminal

Company has outstanding a first mortgage, series E, $3\frac{3}{8}$ per cent, dated February 1, 1939 and due February 1, 1969, series F, 2.6 per cent, dated March 1, 1941 and due March 1, 1971, and series G, $2\frac{3}{4}$ per cent, dated August 1, 1944 and due August 1, 1974. The company is controlled jointly by the Baltimore & Ohio, the Chesapeake & Ohio, the Cincinnati, New Orleans & Texas Pacific, the Cleveland, Cincinnati, Chicago & St. Louis, the Louisville & Nashville, the Norfolk & Western, and the Pennsylvania Railroads. The bonds of the company are guaranteed as to principal and interest and sinking fund payments, jointly and severally by endorsement, by the above-named railroads.¹²

The Cleveland Union Terminal Company owns one of the largest and most modern passenger terminals in the country. The principal user of the property is the New York Central and its subsidiary, the Cleveland, Cincinnati, Chicago & St. Louis, which together account for approximately 93 per cent of the annual costs of operation and debt service. The New York, Chicago & St. Louis pays about 7 per cent of the expenses and interest. Bonds of Cleveland Union Terminal Company are guaranteed as to principal and interest by both the New York Central and the New York, Chicago & St. Louis, as well as by the Cleveland, Cincinnati, Chicago & St. Louis, leased line subsidiary of the New York Central. Each of the proprietary companies is obligated unconditionally to meet principal and interest. So long as they are solvent, operating costs, including interest, are apportioned among the owners on a use basis. In 1948 Erie Railroad concluded contract agreements for use of the terminal facilities for its passenger service beginning early in 1949, after which Erie abandoned its station in downtown Cleveland.

Unlike many terminal bonds, however, the obligations of this terminal company have occupied a distinctly speculative position for two reasons: (a) in the last analysis, there are only two guarantors of the bonds and (b) neither railroad enjoyed a good credit standing for over a decade. This was reflected in the prices of the terminal bonds. The $5\frac{1}{2}$ s of 1972 sold at a low of 72 in 1940; the 5s of 1973 at $60\frac{1}{2}$ in 1941; and the $4\frac{1}{2}$ s of 1977 at $54\frac{3}{4}$ in 1941. The prices of those bonds were influenced by the fear that if the

¹² The properties of the Cleveland, Cincinnati, Chicago & St. Louis Railway are held by the New York Central Railroad under a ninety-nine year lease effective February 1, 1930, under the terms of which, among other things, the New York Central assumes the obligation of the leased line in respect to its guarantee on those terminal bonds.

New York Central were to become involved financially, it might refuse to pay its share of the interest. It was generally felt that if the New York Central defaulted, the New York, Chicago & St. Louis would be in no position to service the full debt and, in turn, would be forced into reorganization. Basically the strength of the bonds depended upon the financial strength of the New York Central alone rather than the joint strength of the New York Central and the New York, Chicago & St. Louis. The subsequent rise in the average prices of the bonds, however, reflected the improvement in the financial strength of the New York Central.

Companies in default on their mortgage bonds frequently continue to make their proportionate payments on terminal contracts in order to retain the use of an essential facility. The strength of a terminal bond, therefore, depends primarily upon the value of the terminal property to and the financial strength of the guarantor companies.

Maturity. All bonds of the same issue generally have the same maturity date, but some issues have serial maturities, some are arranged in series, and others are perpetual.

Serial bonds. Serial bonds are bonds on which the maturities are spread over a succession of years rather than in a single year. For example, Pennsylvania Railroad equipment "K" 2 $\frac{1}{4}$ s were issued in 1940 with an authorized amount of \$7,995,000. Under the indenture, however, \$533,000 mature each July 1 from 1941 to 1955, inclusive. In a serial issue, all the bonds have a common date of issuance but varying maturity dates. The coupon rate may or may not vary.¹³

Series bonds. Series bonds, on the other hand, are issued in sequential series under the same mortgage. Although all the bonds thus issued have the same security, each series has distinctive features of its own, such as date of issuance, interest rate, maturity date, and call price, if callable. For example, Commonwealth Edison Company of Chicago has a first mortgage bond indenture under which are outstanding series L, series M, and series N.¹⁴ Series L was dated August 1, 1944, carries a coupon rate of 3 per cent, and matures February 1, 1977; series M was dated April 1, 1945, carries a coupon rate of 3 per cent, and matures April 1, 1985; series N was dated June 1, 1948, carries a coupon rate of 3 per cent, and matures June 1, 1978. This type of financing gives the cor-

¹³ See Appendix G, "Miscellaneous Announcements," page 524.

¹⁴ The previous series A to K have been retired.

poration a maximum degree of flexibility and allows each new issue to meet the prevailing market conditions.

Perpetual bonds. A perpetual bond is an interest-bearing obligation that has no date of maturity. Such bonds may be issued by governmental bodies or by private corporations. Among such issues are the British Government "Consols," the French "Rentes," and the Canadian Pacific Railway perpetual 4s.

In other instances, although the bond has a definite maturity date, it is so far in the future that for practical purposes the bond is a perpetual obligation, as, for example, West Shore Railroad 4s of 2361 and Elmira & Williamsport 5s of 2862. In a perpetual obligation the bondholder is simply buying the right to income for the period during which he holds the bond.

Stock options. In some bond indentures, the bondholder may have the opportunity to obtain stock either through the exercise of a conversion privilege or by means of a stock purchase warrant.

Convertible bonds. The conversion feature in a bond gives the bondholder the option of converting the bond into stock under the conditions stated in the indenture. The conversion clause involves three factors: (a) the security into which the bond may be converted, (b) the period during which the conversion privilege may be exercised, and (c) the ratio at which the bond may be converted. A convertible bond is usually convertible into the common stock of the company. It may be convertible during a limited period or during the entire life of the bond. The conversion privilege under the American International convertible 5½s issued in 1929 expired in 1934, whereas the conversion privilege under the New Haven convertible 6s issued in 1907 did not become effective until 1923.

The bond may be convertible on the basis of par for par or at a fixed ratio. Convertible at par means that \$1,000 principal amount of bond is convertible into \$1,000 par value of stock. The number of shares of stock received in exchange depends upon the par value of the stock. The bondholder would receive ten shares if the stock has a par value of \$100, twenty shares if the par value is \$50, and forty shares if the par value is \$25. On the other hand, the bond may be convertible at a fixed ratio. If a bond were convertible at the rate of one share of \$25 par value stock for each \$50 of principal amount of the bond, a \$1,000 principal amount of bond would entitle the bondholder to twenty shares of stock (\$1,000/\$50 per share). The American Telephone & Telegraph 2¾s of 1961 are convertible up to December 14, 1958 into common stock at the

ratio of \$150 a share, payable by the surrender of \$100 principal amount of debentures and \$50 in cash. On this basis, a \$1,000 principal amount of bond and \$500 in cash are exchangeable for ten shares of common stock.

Market value. The market value of a convertible bond is affected by two features: (a) its actual value as a fixed-income obligation and (b) its potential value as the stock into which it may be converted. The market value of the bond tends to change with changes in the market value of the stock. In a rising stock market, the bond advances proportionately to the rise in the value of the stock after the conversion parity has been passed, because the potential value as stock becomes more valuable. A convertible bond, convertible at \$25 a share, is worth 120 when the stock is selling at \$30 a share. At a conversion price of \$25, a bond is convertible into forty shares of stock, and with the stock selling at \$30 a share, the bond is worth \$1,200. When Public Service Company of Colorado common stock was selling around \$35 a share, the company's debenture 3s, 1962, were quoted at 111 $\frac{3}{8}$ bid, 111 $\frac{3}{4}$ asked. The premium at which the bonds were quoted reflected the value of the privilege under which the bonds were convertible at any time prior to redemption into the common stock in the ratio of three shares of stock for each \$100 principal amount of debentures. Ordinarily, convertible bonds enjoy their greatest popularity when the stocks into which they are convertible are actively traded on the upside and the conversion privilege shows a definite and immediate value. Early in 1946 some convertible bonds were quoted at or near prices where they afforded no yield to their maturity date. For example, American Telephone & Telegraph debenture 3s of 1956 sold at a high for the year of 159 $\frac{1}{8}$ which meant that they were selling on a negative yield basis to maturity. In a declining stock market the potential value decreases until it disappears, after which the bond sells solely on the basis of a fixed-income obligation. When the stock market declined in the middle of 1946, convertible bonds reflected this decline and many of the issues sold at prices at which little or no value was attached to their conversion privilege. During the September–October, 1946 market break, convertible bonds in most instances showed wider declines than did any other section of the bond list.

The extent to which the market price of the stock and the conversion price of the bond affect the market price of the bond was

illustrated in the instance of Great Northern Railway general mortgage 4s, series G, and general mortgage 4s, series H. When the stock was selling around \$38 a share, the former bond continued to sell at a premium of several points above the latter bond notwithstanding the fact that both issues were scheduled for early redemption at 101. The higher price for the series G was due to the fact that it was convertible into common stock at \$40 a share, whereas the conversion price for the series H was \$75 a share.

Significance of convertible bonds. One of the most serious problems confronting the bondholder is the ever-changing purchasing power of the dollar. No matter how well secured the bond may be, if it matures during a period of high commodity prices, the investor who bought it during a period of low commodity prices will have sustained a definite loss in purchasing power, even though the principal amount of \$1,000 is paid in full. In theory the convertible bond was designed to overcome this problem. In addition to the promise to pay \$1,000 with interest, the issuer gives the bondholder an opportunity to share in the future profits of the company. The implication in a convertible bond is that the investor has an opportunity to make profits while at the same time he is insured against loss by virtue of the fixed obligation to pay the principal amount. The incentive to convert American Telephone & Telegraph 2¾s, due 1961, was strong since, by taking advantage of the privilege, holders were able to increase income by \$6.25 on the investment of an additional \$50. Similarly, holders of the same company's 2¾s, due 1957, who converted, increased their income per \$100 by \$6.25 on the investment of an additional \$40.

There are three principal reasons, however, why convertible bonds, as a class, have not lived up to their reputation as a cure-all for bondholders' troubles. First, an examination of the record of convertible issues reveals that many of the corporations resorting to financing by convertible bonds could not, at the time of issue, borrow on their straight credit. To induce bondholders to invest their funds, it was necessary to "sweeten" the issue by making it convertible. There are times when the issuance of convertible and share-privilege securities is the most convenient way to do financing in the bond market. This is particularly true when the new money market is sensitive to hardening interest rates. Second, in some instances the market price of the stock has not made conversion profitable. For example, National Distillers Products Corpo-

ration 3½s of 1949 were convertible into stock at \$35 a share at any time for the first \$7,500,000 of debentures surrendered, at \$40 a share for the next \$7,500,000, and at \$45 for the last \$7,500,000. In 1943, when \$5,000,000 of the bonds were called for redemption on August 10, the stock was selling at 32¾ on the date the call was issued. The price of the stock never went high enough to make conversion profitable to the holders of the called bonds. Again in 1944 the company called the remaining bonds for redemption on October 20 at 102. The stock closed at 33⅝ on the day before the call. It would have been necessary for the stock to have risen about two and one-half points before conversion would have begun to be more advantageous than taking the redemption price. Third, some of the few issues that actually did benefit from a substantial rise in the value of the stock were called for redemption prior to maturity.

Bonds with warrants. Bonds with warrants are those that bear stock purchase option warrants, which give the holder the privilege of buying a certain number of shares of the stock at a fixed price during a specified period. The warrants attached to the National Dairy Products Corporation debenture 3¾s of 1951 gave the bearer the right, up to May 1, 1940, to purchase ten shares of common stock at \$28 a share. The warrants attached to Remington Rand debenture 4¼s of 1956 gave the holder the right up to March 1, 1944, to purchase fifteen shares of common stock at prices gradually increasing up to a maximum of \$38.69 a share.¹⁵

Kinds of warrants. The warrants may or may not be detachable. The Remington Rand debenture 4¼s of 1956 warrants were detachable. This meant that the bondholder could sell the warrants and retain the bond; the purchaser of the warrants could exercise the stock purchase option afforded by the warrants. The National Dairy Products Corporation debenture 3¾s of 1951 warrants were not detachable. This meant that the stock purchase option afforded by the warrant could be exercised only by the owner of the bond. The warrant could be exercised by a buyer only by the purchase of the warrant and the bond.

Market value. In the instance of nondetachable warrants, there is no market in the warrants separate and distinct from the market in the bonds. The quotation on the bond combines the value of the bond as a fixed-income obligation and the value of the stock subscription privilege represented by the warrant. Detachable

¹⁵ Each of these issues was called for redemption in 1941.

warrants, on the other hand, have a market separate from the market in the bonds. The value of the warrant, in each instance, is influenced by the prospect that the stock which may be purchased by the warrant may reach a market value in excess of the subscription price.

A detachable stock purchase warrant has no intrinsic value as such since it does not have any asset value. Its market price is simply the reflection of the value of the privilege of buying the company's stock at a specified price. The warrant represents a long-term "call" on the common stock and therefore on the future of the company. When a stock is selling below the option price, the warrant has no real value because the exercise of the warrant would be unprofitable. For example, the Radio-Keith-Orpheum warrants entitled the holder to buy one share of common stock at \$15 a share on or before January 31, 1950. When the stock was selling at 11 and the warrant was selling at $2\frac{7}{8}$, it was cheaper to buy the stock directly in the market than to exercise the warrant. The value of $2\frac{7}{8}$ accorded the warrant by the market was a reflection of trader optimism that the market price of the stock would ultimately exceed the option price. After a stock passes its option price, the warrant assumes a new character. The market value of the warrant then consists of two values: (a) the value of the premium, or the amount by which the market price of the stock exceeds the option price, and (b) the value of the privilege, or the amount by which the market price of the warrant exceeds the value of the premium. When Radio-Keith-Orpheum common stock was selling at $17\frac{1}{8}$ and the warrants at $5\frac{3}{4}$, the value of the premium was $2\frac{1}{8}$ ($17\frac{1}{8} - 15$) and the value of the privilege was $3\frac{5}{8}$ ($5\frac{3}{4} - 2\frac{1}{8}$). When the stock sells above the option price, the premium increases as the market price of the stock increases; but the value of the privilege decreases since it becomes less important as to whether the stock or the warrant is held.

Corporations issuing bonds with warrants or with a conversion feature face a common problem, namely, the necessity of "sweetening" the bond in order to sell it. Bonds with warrants and convertible bonds have a common purpose, namely, to give the bondholder an opportunity to realize income in excess of the contract rate of interest. The two types of bonds differ, however, in the method of attaining this purpose. The holder of the convertible bond who takes advantage of the option to exchange the bond for

stock must relinquish the bond, and hence changes his status from a creditor to an owner. On the other hand, the holder of the bond with warrants who takes advantage of the option retains his bond and in addition becomes a stockholder.

Bond retirement. Although the issuer obligates itself to repay the principal of the bond at maturity, it may anticipate payment by the creation of a sinking fund or by reserving the privilege of retiring the bond issue prior to maturity.

Sinking fund. Bond indentures that provide for a sinking fund require the issuer to build up a fund during the life of the bond in order to sink, or liquidate, the debt. Usually the sinking fund is calculated to retire a substantial portion of the debt by maturity.

Sinking fund payment. The annual sinking fund requirement may oblige the issuer to pay a definite sum, an amount varying with earnings, or an amount proportionate to physical output, or a combination of the three. The annual payment based upon physical output is usually found in bonds issued by companies in the extractive industries. From the investor's standpoint, the first method is preferable, namely, the payment into the sinking fund of a definite annual sum.

Use of the sinking fund. The sinking fund may be used (a) to redeem outstanding bonds of the same issue either by purchase in the open market or by call, (b) for investment in other securities, or (c) for plant improvements. The expression "subject to call for sinking fund only" means that the bonds, otherwise not callable for redemption, may be drawn by lot and redeemed out of the sinking fund. For example, Connecticut Light & Power Company first and refunding A 7s of 1951 were redeemable for sinking fund only on any interest date prior to and including November 1, 1931, at 110 and interest, thereafter decreasing one-half of 1 per cent annually to 100½ and interest on November 1, 1950. Bonds so acquired under the sinking fund provision were kept alive and interest added to the sinking fund. In May, 1944, Shell Union Oil Corporation notified holders of its fifteen-year 2½ per cent debentures, due July 1, 1954, that \$1,476,000 principal amount of those debentures had been drawn by lot for redemption on July 1, 1944, at their principal amount and accrued interest for account of the sinking fund. Holders of the debentures drawn were advised to surrender them for redemption at the Guaranty Trust Company, New York, on or before July 1, 1944, after which date interest

would cease to accrue on the debentures or portions thereof called for redemption.¹⁶

Significance of the sinking fund. A sinking fund provision requiring the redemption of the bonds provides the bondholder with two important advantages. One, the bond enjoys increasing security as the amount of indebtedness is reduced. Two, in order to meet the terms of the sinking fund requirement, the issuer sometimes must purchase its bonds in the market, thus tending to maintain the market value of the bonds at a level above that at which they might otherwise sell.

Callable bonds. Some bond indentures contain a clause giving the issuer the option of calling the bonds for retirement prior to the date of maturity.¹⁷ The call clause has five features: (a) the period during which the option may be exercised; (b) the date on which the bonds may be called for redemption; (c) the notice of intention to redeem, which must be given to the bondholders; (d) the amount of bonds that may be called for redemption; and (e) the price at which the bonds must be redeemed.

The period during which the issuer may exercise the privilege of calling the bond for redemption prior to maturity is stated in the indenture. Bonds are usually but not always callable during their entire life. In some indentures the bonds are callable on any interest payment date. If the issuer fails to call the bonds on a specific interest payment date, it cannot exercise the privilege before the next interest payment date however favorable market conditions may be in the interim. For this reason many bonds issued in recent years have reserved to the issuer the right to call the bonds at any time. For instance, Jones & Laughlin Steel Corporation first mortgage 3 $\frac{1}{4}$ s, series C, of 1961 were callable at any time. The call clause in an indenture also specifies the notice of intention to redeem that must be given to bondholders. In the Jones & Laughlin bonds the corporation had to give bondholders at least thirty days' notice. In addition, the indenture usually states the amount of bonds that may be called for redemption. The usual provision is "as a whole or in part." The Jones & Laughlin bonds were callable in whole or in part in aggregate amounts of not less than \$1,000,000. The price at which the bonds must be redeemed

¹⁶ On May 15, 1944, there were \$59,000 principal amount of debentures that had been previously drawn for redemption but that had not been presented for payment by the holders.

¹⁷ See Appendix F, "Redemption Notices," page 520.

either is fixed for the entire period or is based on a sliding scale which provides for a relatively higher premium in the event of early redemption and for a smaller premium for later redemption. For example, the Jones & Laughlin bonds referred to above were callable at the following prices to each January 1, inclusive:

| | |
|------------|------|
| 1947. | 103 |
| 1949. | 102½ |
| 1951. | 102 |
| 1953. | 101½ |
| 1956. | 101 |
| 1959. | 100½ |
| 1961. | 100 |

In 1947 the company issued first mortgage, series A, 2¾s, due 1967, from the proceeds of which it retired the first 3¼s, due 1961.

Market value. The price at which a callable bond may be redeemed tends to set a ceiling on the market price. For example, Republic Steel Corporation 4½s of 1956, which were callable at 104, never sold higher than 106½. Inasmuch as callable bonds are callable at the option of the issuer, they are more likely to be called when market conditions are favorable to the issuer and correspondingly unfavorable to the investor. In the period beginning 1935 many corporations took advantage of prevailing low interest rates by calling their bonds for redemption and replacing them with bonds bearing a lower coupon rate. For example, Shell Union Oil Corporation debenture 5s of 1947 were called for redemption at 102 in 1936 and retired out of the proceeds of the sale of a 3½ per cent issue due in 1951. In view of prevailing market conditions, the holders were obliged to accept a reduced rate of return. It is significant that the holder of a callable bond may be forced to accept less income in the event of a decline in interest rates but is not afforded an opportunity to obtain more income should interest rates rise.¹⁸

Some bonds are both convertible and callable. If, in such instances, the bond commands a substantial premium in the market as a result of the value attaching to the conversion privilege, redemption may have the effect of forcing the bondholder to convert the bond into stock. For example, Allis Chalmers Manufacturing Company issued \$15,000,000 of convertible debenture 4s at par in 1935, which were due in 1945. The debentures were convertible into common stock at \$35 a share (28.57 shares per \$1,000 bond)

¹⁸ It should be noted also that a non-callable feature in a bond is emphasized when such a bond is offered to investors.

until June 30, 1937, and thereafter at higher prices unless called for redemption. In March, 1936, the stock sold at \$45 a share, which made the bonds worth $128\frac{1}{2}$ (more exactly \$1,285.65; later the stock advanced to 81 and the bonds sold as high as 219. The bonds were called for redemption at 103, which had the effect of forcing conversion into the stock, which at the time was selling for more than double the conversion price. As no investor would present a \$1,000 bond for payment at \$1,030 when he could convert the bond into stock enjoying an aggregate market value of more than \$2,000, the call for redemption hastened the conversion of the bonds.

Income bonds. Income or adjustment bonds are bonds on which the interest is paid only when earned and declared. The payment of interest is not a mandatory charge; it is contingent upon the amount of earnings. The Green Bay & Western Railroad Class A income debentures and the Missouri-Kansas-Texas Railroad cumulative adjustment mortgage 5s, series A, of 1967 are two typical income bonds. The principal of the Green Bay & Western income bonds is due only when the road is sold or reorganized. In the meantime, interest is payable only if earned and at such a rate as shall be determined up to a maximum of 5 per cent. Interest was paid at the full rate annually 1904-1932; at $2\frac{1}{2}$ per cent in 1933; at 3 per cent in 1934; at $2\frac{1}{2}$ per cent in 1935; at $7\frac{1}{2}$ per cent in 1936 and 1937; none in 1938; and at 5 per cent in 1939 to 1950, inclusive. Interest on the Missouri-Kansas-Texas income bonds is paid at the discretion of the board of directors. In this instance, however, the interest charge has been cumulative since January 1, 1925, but the accumulation of interest does not itself bear interest. The interest was paid in full or in part up to April 1, 1937. Interest payments were then discontinued until April 1, 1945, when the management resumed the payment of interest. The accumulated unpaid interest on July 2, 1950 was $27\frac{1}{2}$ per cent.

Income bonds are generally issued as part of a reorganization plan under which bond interest charges are "scaled down" to an amount estimated to be within the reasonable capacity of the enterprise. They enable the issuer to reduce the fixed-charge burden by converting a fixed charge into a contingent charge.

Income bonds may be secured by a mortgage or they may be totally unsecured. Boston & Maine income $4\frac{1}{2}$ s of 1970 are secured by a first lien on the entire owned mileage of the road but subject to two prior issues, whereas the Green Bay & Western Class A in-

come bonds are unsecured. Whereas the payment of interest is contingent upon earnings, income bonds usually contain a definite promise to pay the principal at a fixed maturity date. Income bonds as a class lack the qualities of safety and stability of income.¹⁹

Review Questions

1. Define a bond.
2. May a bond have varying coupon rates?
3. Indicate the nature of the claim under the Canadian Pacific Railway 4 per cent debenture stock.
4. Indicate the position of the bondholder.
5. Discuss the methods of determining the nature and the value of the bondholder's claim.
6. Distinguish between a secured and an unsecured bond.
7. Explain the significance of the deed of trust.
8. Indicate the provisions and significance of the Trust Indenture Act of 1939.
9. Contrast the nature of the lien in mortgage bonds issued by railroad, public utility, and industrial companies.
10. Explain the meaning of an "after-acquired" clause.
11. Distinguish between a senior and a junior lien.
12. What are the distinguishing features of closed-end, open-end, and limited open-end mortgages?
13. Describe the nature of a collateral trust note.
14. Indicate the purpose of equipment trust obligations.
15. Distinguish between the lease and conditional sale plans of issuing equipment trust obligations.
16. In the Chesapeake & Ohio Railway 2 $\frac{1}{8}$ per cent equipment trust certificates of 1950-65 indicate (a) the nature of the plan, (b) the cost of the equipment, (c) the original amount of certificates issued, (d) the date of annual maturity, (e) the amount of certificates maturing annually, and (f) the nature of the guarantee.
17. Discuss the investment quality of equipment trust obligations.
18. Define a debenture bond.
19. Discuss the position of a debenture bondholder in the event of default.
20. Explain the "covenant of equal coverage" in a debenture bond indenture.
21. Discuss the investment position of debenture bonds as compared with secured bonds.
22. Distinguish between a temporary bond and a definitive bond.
23. Distinguish between a registered bond and a coupon bond.
24. Differentiate between the Pennsylvania Railroad System and the Pennsylvania Railroad Company.
25. What is meant by a guaranteed bond?
26. What is the position of the holder of a guaranteed bond which is in default?
27. Discuss the factors in the analysis of the investment position of a guaranteed bond.

¹⁹ An outstanding exception has been the Atchison, Topeka & Santa Fe Railway adjustment mortgage 4s of 1995 issued under the reorganization of the railroad in 1895.

28. Name and distinguish between two special types of guaranteed railroad bonds.
29. Describe the nature of the guarantee on the bonds of the New York Connecting Railroad.
30. Indicate the nature of the guarantee on the Birmingham Terminal Company first mortgage 4s of 1957.
31. What liability does the New York Central Railroad have with respect to Detroit Terminal & Tunnel first mortgage 4½s of 1961?
32. Distinguish between serial, series, and perpetual bonds.
33. What is meant by a convertible bond?
34. Discuss the features affecting the market value of a convertible bond.
35. Explain the investment significance of convertible bonds.
36. Indicate the nature of a stock-purchase warrant.
37. What is meant by a bond "with warrants"?
38. Distinguish between a detachable and a non-detachable warrant.
39. Indicate the factors influencing the market price of a bond with a warrant attached.
40. What determines the value of a warrant?
41. A warrant entitles the holder to buy one share of common stock at \$20 a share. Indicate the value of the premium and the value of the privilege with the stock selling at 26½ and the warrant at 7¾.
42. Discuss the significance of the warrant and of the conversion privilege to the bondholder.
43. What is meant by a "sinking fund" bond?
44. Describe the methods of calculating the annual sinking fund payment.
45. Indicate the uses made of the sinking fund.
46. What is meant by the expression "subject to call for sinking fund only"?
47. Discuss the significance of the sinking fund provision to the bondholder.
48. What is meant by a callable bond?
49. Name the features of the redemption clause.
50. Indicate the call price on Union Pacific Railroad 2½s of 1991.
51. Discuss the relation of the redemption price to the market price of the bond.
52. Describe the conditions under which the calling of a convertible bond for redemption may force the bondholder to convert.
53. What is meant by an income bond?
54. Discuss the investment significance of an income bond.

Assignment

- (a) Determine the following investment features of the Chicago, Indiana & Southern Railroad first 4s of 1956: authorized, date issued, interest payment dates, denominations, callable, sinking fund, guaranteed, lien, legal investment, listed, trustee, and registrar.
- (b) Indicate the number of shares of stock which the holder of a convertible bond may receive upon conversion if the conversion value of the stock is (1) 105, (2) 120, (3) 125, (4) 40.
- (c) A company, which was paying a regular annual dividend of \$9 a share on its capital stock issued \$234,000,000 of 3 per cent debentures convertible into the stock at \$140, payable by the surrender of \$100 principal amount

of debentures and \$40 in cash. Account for the conversion of \$137,000,000 the bonds during the succeeding four years.

- (d) A bond is convertible into common stock at 40. What is the value of the bond with the stock selling at (1) \$35, and (2) \$45 a share?
- (e) Explain the meaning of the italicized section of the following announcement:

Guaranty Trust Company of New York has been appointed *trustee*, *registrar*, and *paying agent* for \$75,000,000 principal amount of Liggett & Myers Tobacco Company 2 $\frac{5}{8}$ per cent sinking fund debentures, due 1966.
- (f) A corporation in 1948 issued \$30,000,000 of 2 $\frac{3}{4}$ per cent debentures due in 1968 and covenanted to redeem \$2,000,000 principal amount of debentures for the sinking fund on each April 1 beginning April 1, 1954. Assuming that the debentures are retired for the sinking fund as required, determine the average life of the issue and the amount which will be outstanding at maturity.
- (g) In the Baltimore & Ohio Railroad 2 per cent equipment trust certificates of 1948-1957 indicate (1) the nature of the plan, (2) the estimated cost of the equipment, (3) the original amount of certificates issued, (4) the date of annual maturity, (5) the amount of certificates maturing annually, and (6) the nature of the guarantee.

CHAPTER THREE

STOCKS

Introduction. The ownership of a corporation is divided into units called shares. A stockholder's interest is evidenced by a stock certificate, which states, among other things, the name of the stockholder, the class of stock, and the number of shares owned. This information also appears on the stock record of the corporation.

Par value. Corporate stock may be either par value or no par value stock. The par value of a share of stock is a purely arbitrary, nominal value given to the stock by the certificate of incorporation. The par values of stocks are not uniform, as evidenced by the following common stocks: American Telephone and Telegraph (\$100), Pennsylvania Railroad (\$50), du Pont (\$5), Borden (\$15), and General Motors (\$5). The par value of a stock is of little significance to the investor, however, since it bears no relationship to the market value. For example, the common stock of the Pennsylvania Railroad, with a par value of \$50, has sold at a high of 87 and a low of 6, and General Motors common stock, when the par value was \$10, sold at a high of 99 $\frac{7}{8}$ and a low of 75 $\frac{1}{8}$. The market price of a stock is influenced primarily by earnings.

No par value stock, as the name implies, is stock without par value. The common stocks of such companies as General Electric, National Dairy Products, and Montgomery Ward are without par value.

Stockholder's position. The stockholder is an owner, in contrast to the bondholder, who is a creditor. The annual interest payment to the bondholders constitutes a prior charge against the earnings and must be paid before the corporation may make any dividend distribution to the stockholders. In the event of liquidation, the claim of the bondholders takes precedence over the interest of the stockholders. As an owner, therefore, the stockholder has a residual interest in the earnings and in the assets. The nature of the

stockholder's interest, however, depends upon whether he is a preferred stockholder or a common stockholder.

Preferred stock. Preferred stock has certain preferences as against the common stock in the interest in the earnings, in the assets, and in the management. The exact nature of those preferences in the instance of a specific preferred stock, however, can be determined only by reference to the preferred stock provisions in the certificate of incorporation. It is essential, therefore, that the investor who is interested in a preferred stock determine the kind and extent of the preferences and the effect of those preferences upon the investment quality of the stock.

The preferred stockholder's interest in the earnings may be stated as (a) preferred as to dividends, (b) cumulative, (c) participating, and (d) convertible.

Dividends. Preferred stock is invariably preferred as to dividends, which means that the right of the preferred stock to dividends takes precedence over the right of the common stock. The rate of annual dividend to which the preferred stock is entitled is stated on the stock certificate. The annual dividend rate on a par value stock is stated as a percentage of par value. The annual dividend rate on the preferred stock of Westinghouse Electric Corporation is 3.8 per cent, whereas the rate on the preferred stock of Corning Glass Works is $3\frac{1}{2}$ per cent. The dividend rate represents the rate payable on the par value of the stock. The annual dividend in terms of dollars, therefore, depends upon (a) the dividend rate and (b) the par value. Westinghouse preferred stock dividend is at the rate of 3.8 per cent on a par value of \$100 or \$3.80 while the dividend on the Corning Glass preferred is at the rate of $3\frac{1}{2}$ per cent on a par value of \$100 or \$3.50. The annual dividend rate on a stock without par value, on the other hand, is stated directly in terms of dollars. For example, General Motors Corporation \$5 Series preferred stock, which has no par value, is entitled to an annual dividend of \$5.

The annual dividend rate is commonly referred to as the preferred dividend "requirement." It indicates the dividend to which the stockholder is entitled; at the same time it sets the limit to which the stockholder may share in the earnings. The dividend rate on the preferred stock is comparable to the interest rate on the bond in that each rate is definite. On the other hand, the payment of the dividend on the preferred stock is unlike the interest on the bonds in that the latter is a fixed charge whereas the former is a

contingent charge—contingent upon earnings and the discretion of the board of directors. Interest on the bonds must be paid to avoid default, but the dividend on the preferred stock may or may not be paid, and failure to pay the dividend does not constitute default.

The fact that a preferred stock is preferred as to dividends does not assure the stockholder that the regular dividend will be paid annually. The company may pay the full dividend or part of the dividend or may omit the payment of the dividend, as the board of directors may elect. The annual dividend requirement on the preferred stock of United States Steel Corporation is \$7; nevertheless the company paid only \$5.75 dividend on the stock in 1932. Preference as to dividend simply assures the preferred stockholder that no dividend will be paid on the common stock in any one year unless the full preferred stock dividend has been paid.

Cumulative. If the dividend on a non-cumulative preferred stock is not paid in the current year, the stockholder has no claim on future earnings for the omitted dividend. The stockholder's hope is that earnings for the succeeding year will be adequate to warrant the payment of the annual dividend. In some instances, however, the preferred stock is given a cumulative feature and is referred to as cumulative preferred stock. Under this provision, omitted dividends accumulate and are referred to as "dividends in arrears."

In instances where the accumulation of dividends in arrears on preferred stocks is eliminated, it is accomplished either by payment in cash or by recapitalization. The United States Steel Corporation, for example, paid the regular dividend of \$7 on its cumulative preferred stock in 1931 in spite of the fact that the earnings per share amounted to only \$3.62. In 1932, however, with a deficit of \$19.70 a share, the management paid a dividend of only \$5.75, which meant that there was a dividend arrearage of \$1.25. An annual dividend of \$2 was paid in 1933-1935 which resulted in an aggregate arrearage of \$16.25 at the close of 1935. The management paid a dividend of \$14 in 1936, of which \$7 represented the regular annual dividend requirement and \$7 applied to a reduction in the arrearage, reducing the latter to \$9.25. During 1937 the management paid the regular quarterly dividend requirement of \$1.75 and by August 30 had paid off the entire arrearage of \$9.25 accumulated at the close of 1936.

On the other hand, the accumulated dividends on the 7 per cent preferred stock (par \$100) of Bethlehem Steel Corporation, which

amounted to \$21 a share on April 1, 1936, was cleared up by a recapitalization. Under a merger agreement effective February 26, 1936, every 7 per cent preferred share of the New Jersey corporation was exchanged for one \$100 par value 7 per cent preferred share and one \$20 par value 5 per cent cumulative preferred share of the successor Delaware corporation and \$1 in cash. The \$21 arrearage was paid partly in cash (\$1) and partly in new preferred stock (\$20 par value). Subsequently the \$20 par value 5 per cent preferred stock (Delaware corporation) was redeemed on April 1, 1940, at \$20 a share and accrued dividend of 25 cents.

The payment of cumulative dividends on a preferred stock is contingent upon earnings and the discretion of the management. The fact that a preferred stock is cumulative is no assurance that the dividends—current and accumulated—will be paid at any time. The only assurance given the preferred stockholder is that no dividend will be paid on the common stock until the arrearage and the current regular dividend on the preferred stock have been paid in full. In the instance of the United States Steel Corporation, it was not until 1937, when the arrearage on the preferred stock had been eliminated, that the common stock was eligible for a dividend, and then only after the payment of the current regular dividend on the preferred stock.¹

Participating. Ordinarily the annual dividend on a preferred stock is definite and limited. For example, the annual dividend on United States Steel Corporation preferred is definitely fixed at 7 per cent of the par value of \$100, or \$7, and is limited to that rate. In other instances, however, the preferred stock is permitted to share in the earnings in excess of the stated rate of dividend. Such a stock is entitled to its regular dividend and then, after the common receives a similar rate of dividend, participates with the common stock in the balance of the earnings distributed as dividends. For example, Westinghouse Electric Corporation had outstanding a 7 per cent participating preferred stock on which the management distributed \$16,007,230 as a dividend in one year. The preferred stock was entitled to its regular dividend of 7 per cent on the then

¹ In some instances the cumulative feature has proved a profitable speculation. For example, in June, 1944, a trader sold at 92½, 100 shares of Associated Dry Goods \$7 second preferred stock, which he had purchased in 1939 at 52, thus obtaining a gross profit on the sale of approximately \$4,075. In addition he had received \$7,175 in dividends, representing the regular \$7 annual dividend in 1940-1943, \$40.25 a share payment of dividends in arrears, and regular quarterly dividends in 1944 aggregating \$3.50 received up to the time of sale. He thus received profits and dividends aggregating \$11,250 on an original investment of \$5,200.

current par value of \$50, or \$3.50 per share, aggregating \$279,909 on 79,974 shares of preferred stock. The common stock was entitled to a similar rate of dividend, namely, 7 per cent. Inasmuch as the par value of the common stock was \$50 at the time, the common stock was entitled to \$3.50 per share, aggregating \$9,072,543 on 2,592,155 shares of common stock. The aggregate dividends distributed to the two classes of stock at this point was \$9,352,452, leaving an undistributed balance of \$6,654,778. This was divided on a pro rata basis among the two classes of stock. The preferred stock, aggregating 79,974 shares or 3 per cent of the total stock outstanding (2,672,129 shares), received 3 per cent of the undistributed balance of \$6,654,778, or \$199,935 additional dividend, as a participating dividend. The common stock, aggregating 2,592,155 shares or 97 per cent of the total stock outstanding (2,672,129 shares), received 97 per cent of the undistributed balance of \$6,654,778, or \$6,454,843. The preferred stock, therefore, received an aggregate dividend of \$479,844, of which \$279,909 represented the regular dividend and \$199,935 the participating dividend.²

The extent of the participation by the preferred stock may be limited, however, by the provisions of the certificate of incorporation. For example, prior to 1951 the 6 per cent cumulative preferred stock (par value \$25) of the Diamond Match Company was entitled to a regular annual dividend of \$1.50 a share. In addition, after the common stock received a dividend of \$1.50, the preferred stock was entitled to participate, share for share with the common stock, in any additional distribution. The preferred stock, however, was not entitled to receive dividends in excess of \$2, including the regular dividend of \$1.50. In other words, the maximum participating dividend that the preferred could receive was 50 cents. The Diamond Match preferred received a participating dividend in 1935 (20 cents), in 1936 (25 cents), in 1937 (50 cents), and in 1938 (50 cents). Under the plan of recapitalization effective in 1951, each share of the 6 per cent cumulative participating preferred stock was reclassified into one share of new \$1.50 cumulative, non-participating preferred stock (par value \$25) callable at \$34 a share and three-tenths of a share of common stock.

Participating preferred stockholders are not assured that dividends, either regular or participating, will be paid at all. The pay-

² The participation of a preferred stock may be simple (as in the instance of Westinghouse), immediate, or special. A preferred stock that participates immediately is entitled to its regular dividend and then immediately participates with the common stock in the balance of the earnings distributed as dividends.

ment of dividends—regular and participating—depends largely upon earnings. Investors in participating preferred stock are assured only that they will receive dividends before the common stockholders and that they will be permitted to share in any excess earnings distributed as dividends.

Convertible. Preferred stock may have the privilege of conversion into common stock. This conversion provision, like that of a convertible bond, states the security into which the preferred stock may be converted (usually common stock), the period during which the conversion privilege is valid, and the ratio at which the preferred stock is convertible. The \$5 preferred stock of Goodyear Tire & Rubber Company, for example, was convertible into common stock of the company at \$75 a share until October 1, 1946, when the privilege expired. A share of 5 per cent preferred stock of Melville Shoe Corporation was convertible into common stock at the rate of $2\frac{1}{2}$ shares of common stock from January 1, 1945, until the conversion privilege expired on January 1, 1950. It is significant that for preferred stocks that are convertible at varying prices during the period of the privilege in accordance with the prescribed schedule, the conversion price usually increases with the later dates. To the extent that conversion is postponed, the lower is the cost in common stock to the corporation and, by the same token, the smaller is the return in common stock to the investor when the privilege is exercised.

The conversion privilege may favorably affect the value of the preferred stock. The value of a convertible preferred stock is influenced by two factors: (a) its value as a preferred stock and (b) its potential value as common stock. As the preferred stock is convertible at the option of the preferred stockholder, naturally the holder will convert only when market conditions make such action profitable. Conversion is attractive when earnings enable the company to pay a higher dividend on the common stock than on the preferred stock. The preferred stockholder has an opportunity to exchange a preferred stock with a limited dividend for a common stock with a higher current dividend. Before converting, however, the preferred stockholder must consider the market prices of the respective shares and the fact that conversion changes his status from a preferred to a common stockholder.

Assets. Preferred stock usually has a preference over the common stock in the distribution of the assets of the corporation in the event of dissolution. The extent of the preference is stated in the

certificate of incorporation. The 6 per cent preferred stock of Eastman Kodak Company is entitled to par value of \$100 a share in dissolution, whereas the \$5 preferred stock of General Motors Corporation, which is without par value, is also entitled to \$100. On the other hand, the 7 per cent preferred stock of American Radiator & Standard Sanitary Corporation, which has a par value of \$100, is entitled to \$175. In some instances the extent of the preference of the preferred stock against the assets depends upon the nature of the liquidation. For example, in some instances the preferred stock may be entitled to \$100 a share in involuntary liquidation and to \$110 a share in voluntary liquidation. In all instances the preferred stock is also entitled to accrued dividends.

The preference as to assets has little practical value to the investor. In the first place, his primary interest is in the corporation as a going concern, not as a liquidating concern. In the second place, liquidation of a company is usually the result of failure, in which case the assets are generally in the possession of the creditors, leaving little or nothing available for the stockholders.

Voting and vetoing. The interest of the preferred stock in the management may be stated in a positive manner (voting power) or in a negative manner (vetoing power). In some instances not only does the preferred stock have voting power; a share of preferred stock may even have more votes than a share of common stock. For example, every share of the preferred stock of International Harvester Company has twelve votes whereas each share of the common stock has one vote. The preferred stock, with 816,724 shares outstanding, has an aggregate of 9,800,688 votes, or 44 per cent of the total votes. The common, with 12,738,197 shares outstanding, has an aggregate of 12,738,197 votes, or 56 per cent. Inasmuch as preferred stock is generally more closely held than common stock, the voting power of the preferred may prove quite significant.

In other instances the preferred stock has what may be referred to as contingent or vetoing power; that is, it has no voting power as such but in certain circumstances either it is given voting power or its consent is necessary to make the action of the management binding on the corporation. For example, Cudahy Packing Company 4½ per cent preferred stock has no voting power. If six quarterly dividends are in default, however, the preferred, voting separately as a class, is entitled to elect two additional directors

Some preferred stocks have both voting power and vetoing power.

For example, American Can Company 7 per cent preferred stock has six votes per share; at the same time, the corporate property cannot be mortgaged without the consent of two thirds of the preferred stock. Generally speaking, however, the voting or vetoing power of a preferred stock has little relation to its investment value.

Redeemable. Regardless of those preferences, some preferred stocks are redeemable at the option of the corporation.³ The redemption provision usually states the date on which the stock may be redeemed, the time at which notice must be given to the preferred stockholder, the extent to which the issue may be redeemed, and the price at which the stock is redeemable. For example, the \$2 preferred stock of Dayton Rubber Co., is redeemable at the option of the company on any dividend date upon 30 days' notice, in whole or in part, and at \$35 a share and accrued dividends. Dayton Rubber Co., may redeem either the entire issue of preferred stock or any amount of the issue. At redemption it agrees to pay the stockholder \$35 a share and accrued dividend to the date of redemption. In other instances the call price is expressed as a schedule. For example, Dow Chemical \$4 preferred stock was callable at 112 to November 1, 1948; at 110 to November 1, 1953; and at 107 thereafter. American Airlines 3½ per cent preferred stock was callable at 104 to 1951, at 103 to 1956, and at 102 thereafter. It is significant that in preferred stocks, which are redeemable at varying prices during the period of the privilege in accordance with a prescribed schedule, the redemption price tends to decrease with the later dates. To the extent that redemption is postponed, the lower is the cost in cash to the corporation and the smaller is the return in cash to the investor when the privilege is exercised.

The fact that a preferred stock is redeemable offers no value to the holder. In a rising market the call price tends to set an upper limit to the market price of the preferred stock. Since the stock is callable at the option of the corporation, the latter usually calls the stock for redemption only when market conditions are to the issuer's advantage and, therefore, disadvantageous to the stockholder.

In recent years some corporations, planning to redeem their preferred stock, offered the preferred stockholders a choice of cash or new preferred stock bearing a lower dividend rate in exchange for the old preferred stock. The willingness of the preferred stockholders to accept the new preferred stock was influenced by the federal capital gains tax. This was especially true of stockholders

³ See Appendix F, "Redemption Notices," page 522.

who acquired the old stock at substantial discounts. In the event of redemption at a premium in cash, those stockholders found themselves liable to a capital gains tax on the difference between the cost and the call price received. Since, under the existing federal tax law, the exchange of one preferred stock for another of the same company did not subject the stockholder to a capital gains tax, the advisability of accepting stock instead of cash was apparent. Firestone Tire & Rubber Company adopted a variation of this method in redeeming its 6 per cent preferred stock at 105 and accrued dividends of \$1.50 a share with the proceeds of an offering of 4½ per cent preferred stock. Instead of making a direct offer to exchange old stock for new, an arrangement was made for underwriters and dealers to offer holders of the 6 per cent stock one share of 4½ per cent stock plus \$6.50 in cash in exchange for one share of the old 6 per cent stock.

Classes of preferred stock. In some instances a corporation may have several classes of preferred stock. Worthington Pump & Machinery Corporation, for example, at one time had outstanding four classes of preferred stock. Southern California Edison, Cities Service, and North Indiana Public Service also have had outstanding several classes of preferred stock. Celanese Corporation has outstanding a \$4.75 first preferred stock and a 7 per cent second preferred stock.

Significance. Preferred stock is usually preferred as to dividends and as to assets. Whether the stock under consideration also possesses any or all of the other preferences—cumulative, participating, convertible—can be determined only by reference to the preferred stock provisions. Preferred stockholders, as a class, have an owner's interest with a limited maximum return. They assume more risk than the bondholders, for which they receive a higher rate of dividend, but less risk than the common stockholders, for which they must accept a limited return. The \$5 preferred stock of Goodyear Tire & Rubber Company is junior to unsecured notes and to the minority stockholders' equity in subsidiary companies, but senior to the common stock. In the absence of funded debt, however, preferred stock represents a senior interest. The 6 per cent preferred stock of Eastman Kodak Company, for example, is the senior interest in the company.

Common stock. Common stock represents the basic ownership of the corporation. Although not all corporations necessarily have preferred stock outstanding, they do have common stock. The

ownership interest in the earnings and in the assets is shared by the preferred stock and the common stock, but the interest of the common stock is subordinate to the interest of the preferred stock. The extent of subordination of the interest of the common stock of a specific company depends upon the presence of securities with prior interest. In some instances the common stock is subordinate to bonds and preferred stock. For example, the common stock of Goodyear Tire & Rubber Company is junior to unsecured notes, to the minority stockholders' equity in subsidiary companies, and to the preferred stock. In other cases the common stock is subordinate only to the preferred stock. For example, the preferred stock of International Harvester Company is the only interest ahead of the company's common stock. In still other instances the common stock comprises the sole security issued by the company; as, for example, General Electric.

Dividends. The payment of dividends on common stock is contingent upon earnings and the discretion of the directors.⁴ Unlike the preferred stockholder, however, the common stockholder is not promised any specific rate of dividend. The declaration of dividends by the directors is subject to the corporate law of the state of incorporation. Under the law in New York State (Stock Corporation Law, Section 58):

No corporation shall declare or pay any dividend which shall impair its capital, nor while its capital is impaired, nor shall any such corporation declare or pay any dividend or make any distribution of assets to any of its stockholders, whether upon a reduction of the number or par value of its shares or of its capital, unless the value of its assets remaining after the payment of such dividend, or after such distribution of assets, as the case may be, shall be at least equal to the aggregate amount of its debts and liabilities, including capital.

The attitude of the courts toward the declaration of a dividend has been stated as follows:⁵

It is a fundamental rule relating to the management of corporations that it is within the discretion of the directors to determine when and to what extent a dividend shall be made, subject of course to the qualification that the same shall not encroach on the capital. Courts will not interfere with such discretion unless it be first made to appear that the directors have acted or are about to act in bad faith and for a dishonest purpose. It is for the directors to say, acting in good faith of course, when and to what extent dividends shall be declared.

Dividend policy. The investor in common stocks should study the dividend policy of the company in whose common stock he is interested. Determination of the dividend policy requires analysis

⁴ See Appendix G, "Miscellaneous Announcements," page 523

⁵ *Liebman v. Auto Strop Co.*, 241 N. Y. 427 (1926).

of the dividend record to ascertain (a) the amount of the dividend in relation to the earnings and (b) the form of the dividend.

Conservative management requires that the available earnings should not all be distributed as dividends; at least part of the earnings should be retained in the business. In the instance of American Can Company, all earnings in excess of preferred stock dividend requirements during the period 1901-1922 were used to build up properties, earning power, and working capital, and as a result no distribution was made to the common stockholders. Since 1923, when the company made its initial payment on the common stock, the dividend policy has been dictated by the company's expansion needs and current position. The impatient stockholder who insists that the management pay dividends before the company has accumulated adequate reserves is only jeopardizing his investment. In the long run he is likely to find that the company is unable to weather business storms because of insufficient financial resources and that the value of his interest in the earnings and assets is probably negligible. On the other hand, retention of a large portion of the profits is not advantageous to the investor if the company has already built up adequate reserves. Under such circumstances the investor is justified in expecting the distribution of a large percentage of earnings.

Analysis of dividend records reveals three general policies: (a) a regular dividend irrespective of current earnings, for example, American Telephone & Telegraph Company; (b) a dividend proportionate to current earnings, for example, General Motors Corporation and General Electric Company; and (c) a regular dividend at a minimum rate with occasional extra dividends, for example, companies in the petroleum industry. The chief difficulty with the first policy is that the dividend rate may be maintained too long after earning power has declined, as in the case of the New Haven Railroad in the early years of the present century. The second policy has become increasingly more common in recent years owing to changing business conditions. It was especially common under the federal undistributed profits tax during 1937 and 1938.

Form of dividend. The dividend may be paid in cash, in stock, in scrip, or in property. The usual form is cash. A stock dividend is paid in shares of the company. When the Sun Oil Company, for example, declared a 10 per cent stock dividend, a holder of 100 shares of common stock received ten additional shares as a dividend, thus increasing his holdings to 110 shares. A stock dividend rep-

resents the plowing back of profits by the capitalization of a portion of the earnings. The dividend declared by the Sun Oil Company resulted in the transfer of about \$10,000,000 from the earned surplus account to the capital stock account. In some instances the dividend is paid partly in cash and partly in stock. International Business Machines Corporation has followed a general policy of paying the annual dividend partly in cash and partly in stock of the company. Occasionally a company may pay a dividend in scrip. A corporation that wishes to maintain an unbroken dividend record but temporarily cannot reduce its cash position in order to pay the current dividend in cash may pay the dividend in scrip, by which it promises to pay the dividend in cash at some future date, say three months.

A dividend is occasionally paid in property. General Electric Company paid a dividend on the common stock of one sixth of a share of Radio Corporation of America common stock, of which the company had to dispose in accordance with a regulation of the federal government. National Distillers Products Corporation once declared a dividend in warehouse receipts for whiskey on the basis of one case for each five shares of common stock held.⁶

The form of dividend payment is frequently influenced by the working capital position of the company. Payment in cash presupposes adequate cash to meet the dividend payment and still provide ample cash for working capital purposes. On the other hand, payment in stock leaves the cash position of the company intact. The earnings of International Business Machines Corporation have been maintained over a considerable period, but the pressing need for adequate working capital in the form of cash has resulted in the company paying part of the dividend in stock. Stock dividends give the stockholders evidence of the increase in their interest without reducing the working capital by a cash distribution. In some instances, however, the reduced surplus may be eliminated by a few bad years and any attempt to maintain the same dividend rate on the increased capitalization without regard to working capital position may prove disastrous.

Surplus. Stockholders should not rely upon accumulated earnings and the presence of a large surplus to carry dividends through poor years. The availability of such earnings for dividends depends upon the form in which they have been accumulated—whether in a

⁶ The Internal Revenue Bureau fixed the value of the dividend for tax purposes at \$7 a share.

liquid form or as investments in fixed property. In the former case, earnings are available for dividends in years of decreased income; in the latter case, the investment of surplus earnings in fixed property precludes their availability for dividends in poor years.

Contractual limitations. In some instances the payment of dividends on the common stock is limited by provisions in the bond indenture or by the preferred stock provisions. For example, the indenture of the Owens Illinois Glass Company debenture 2¾s of 1952 provided that no dividend could be declared or paid except out of consolidated net income earned subsequent to December 31, 1936. The consolidated earned surplus on that date was \$18,430,-943. The actual surplus available for dividends, therefore, was the excess of the current surplus over the 1936 surplus of \$18,430,943. Likewise the indenture covering B. F. Goodrich first mortgage 2¾s of 1965 prohibits the company from declaring dividends (except stock dividends) on any class of its stock or from retiring or acquiring any stock by purchase or redemption if such action would violate the restrictions set forth in the indenture. The purpose of such restrictions is to insure the payment of fixed charges on the bonds by protecting the working capital position of the company.

Likewise the payment of dividends on the common stock may be restricted by the preferred stock provisions. Under the preferred stock provisions of Cudahy Packing Company, no dividends can be declared on the common stock that would violate the dividend restrictions in the preferred stock provisions.

Dividend continuity. Some companies have paid dividends continuously over a long period. A selected group of those companies includes the Pennsylvania Railroad (1848), American Telephone & Telegraph (1885), Diamond Match (1882), Standard Oil Company of New Jersey (1882), Consolidated Edison Company of New York (1885), and United Gas Improvement Company (1885). The payment of continuous dividends does not necessarily mean, however, that the company has paid the same dividend every year. It means, rather, that the company has paid a dividend every year, the amount of which may have varied from year to year. For example, while the Pennsylvania Railroad has paid dividends continuously since 1848, the amount has varied, especially in recent years, from \$4 to 50 cents.

Stock changes. Corporations sometimes change the number of shares of capital stock by either a split-up or a reverse split.

Stock split-up. Many corporations have taken advantage of an

extended rise in the stock market to effect a stock split-up. A stock split-up is accomplished through an increase in the number of shares by reducing the par or stated value of the stock. For example, Westinghouse Electric Corporation split both its preferred and its common stock on a four-for-one basis by reducing the par value of each class of stock from \$50 to \$12.50 a share. Prior to the split-up, the authorized capital consisted of 4,000,000 shares with a par value of \$50, of which 79,974 preferred and 3,132,816 common shares were outstanding. As a result of the split-up, the authorized stock was increased to 16,000,000 shares with a par value of \$12.50, of which 319,896 preferred and 12,531,264 common shares were outstanding. Louisville & Nashville Railroad increased the number of shares from 1,170,000 to 2,340,000 by reducing the par value from \$100 to \$50 a share. Each stockholder received two shares of the new \$50 par value stock in exchange for one share of old \$100 par value stock.

Significance. A corporation may be prompted to split up its stock by any one of several reasons: (a) to provide greater marketability for the stock, (b) to provide additional shares for the acquisition of new properties through the exchange of stock, (c) to effect a greater distribution of profits without raising the dividend rate, (d) to avoid reporting excessively large earnings per share, and (e) to reduce the dividend rate without sacrifice of income to the stockholder.

The corporation may desire to provide greater marketability for its stock. The effect of the split-up is to give the stock a broader market through (a) an increase in the number of shares outstanding, (b) a lower price for the stock, and (c) an increase in the number of stockholders. The split-up of a stock on a two-for-one basis results in twice as many shares outstanding, thus broadening the market in the stock. Every split-up results in an increase in the number of shares outstanding. The increase is always proportional to the rate of exchange; that is, the four-for-one split-up by Westinghouse Electric Corporation increased the number of common shares outstanding from 3,132,816 to 12,531,264.

The effect of the split-up is to reduce the market value per share, thus making the stock available for a larger number of investors. The reduction in the market price per share of the new stock, however, is not necessarily proportionate to the rate of exchange. The mathematical axiom that the sum of the parts is equal to the whole seems not to hold true in the stock market. When the ownership

of a company is split up into twice as many shares, the new stock usually sells for somewhat more than half as much as the old stock. For example, prior to the split-up of American Airlines common stock on a two-for-one basis, the old stock was selling at about 80, which meant that the adjusted price of the new stock on the basis of the split-up should be 40. The market price of the new stock, however, was about 45. Similarly, the old stock of Schenley Distillers sold at $52\frac{1}{8}$ before the three-for-two split-up, which would amount to $34\frac{3}{4}$ a share for the new stock on an adjusted basis. The market price of the new stock, however, was $43\frac{1}{8}$.

At the same time, a stock split-up usually results in an increase in the number of stockholders. In the six months' period following the split-up of United States Steel Corporation common stock on a three-for-one basis, the number of stockholders increased from 170,798 to 200,896, an increase of 30,098 or 17.57 per cent.

A corporation may wish to provide additional shares for the acquisition of new properties through the exchange of stock. For example, assume a corporation with 1,500,000 shares of authorized stock, each with a par value of \$100, of which 1,000,000 shares are outstanding and 500,000 shares are unissued. Should the corporation plan to acquire new properties through an exchange of stock, it would have only 500,000 shares of unissued stock available. If it splits up its stock by reducing the par value to \$50 a share, it increases the number of shares of unissued stock to 1,000,000.

A split-up of the stock permits a greater distribution of profits without raising the dividend rate. If a corporation that pays a dividend of \$2 a share on 1,000,000 shares of no par value stock with a stated value of \$100 splits up the stock into 2,000,000 shares by reducing the stated value to \$50 a share, the same dividend rate of \$2 a share would permit the payment on the new stock of the equivalent of \$4 a share in dividends on the old stock. The holder of one share of the old stock received \$2 a share. As a result of the split-up, he still receives \$2 a share, but since he now has twice as many shares he receives \$4 for every \$2 previously received.

In order to avoid reporting excessively large earnings per share, a company may seek to reduce the reported earnings per share by diffusing the earnings among a larger number of shares. A corporation with a net income of \$10,000,000 and 1,000,000 shares of \$100 par value stock outstanding earns at the rate of \$10 a share. If the stock is increased to 2,000,000 shares by a reduction in the par value from \$100 to \$50, the earnings stated on a per share basis are re-

duced to \$5. Schenley Distillers Corporation, during a period of rapidly rising earnings, split up its stock on a three-for-two basis and later split it again on a four-for-three basis.

Dividend rates may be reduced by a split-up without sacrifice of income to the stockholder. In the instance of the Louisville & Nashville Railroad split-up, the dividend rate of \$7 a share on the \$100 par value stock was reduced to \$3.50 on the \$50 par value stock. Inasmuch as the stockholder received two shares of \$50 par value stock in exchange for one share of \$100 par value stock, the subsequent annual dividend payment of \$3.50 a share was equivalent to \$7 on the old stock. The Standard Oil Company of Ohio split up its stock on a two-and-one-half for one basis by exchanging the old \$25 par value stock for two and one-half shares of new \$10 par value stock. The company had distributed an annual dividend on the old stock at the rate of \$2.50 a share. The annual dividend rate of \$1 a share on the new stock was equivalent to \$2.50 a share on the old stock.

In the instance of a bond issue or a preferred stock that is convertible into common stock, an increase in the number of shares of the common stock as a result of a split-up tends to dilute or destroy the conversion privilege of the bond or preferred stock. The bond indenture or the certificate of incorporation, however, sometimes contains provisions designed to protect the interest of the holders of convertible securities against the dilution or destruction of the conversion privilege. The protection aims, through restrictions and adjustments of the conversion price, to give the holder of the convertible security what he would have received had he converted immediately prior to the change in the number of shares of the common stock. For example, Johns-Manville Corporation 3½ per cent cumulative preferred stock was convertible into common stock on a share for share basis, plus the payment of \$15 in cash, for each share of preferred stock converted. When the company split up the common stock on a three-for-one basis, however, the preferred stock was made convertible into three shares of common stock instead of one share.

Reverse split-up. A company may adjust its capital structure by a reverse split-up. In a reverse split-up the corporation reduces the number of shares in order to raise the depressed shares to higher price brackets where they will command greater confidence. The creation of a better market price for the stock may pave the way for new financing. United Cigar-Whelan Stores Corporation

changed the authorized common stock from 6,000,000 shares of 10 cents par value to 3,000,000 shares of 30 cents par value and exchanged three shares of the old stock for one share of the new stock. As a result the outstanding stock was reduced from 5,709,924 shares to 1,903,308 shares. The change did not affect the aggregate par value of the outstanding stock nor of the surplus but the initial market price of the new stock was $10\frac{7}{8}$, compared to a previous price of less than 2 on the old stock.

Guaranteed stocks. Guaranteed stocks, both preferred and common, are those upon which the dividend is guaranteed by a company other than the issuer. Guaranteed stocks are confined almost entirely to the railroad field.⁷ As a group, they arose out of the leasing of one railroad (lessor) by another railroad (lessee and guarantor) in the process of consolidating the older or smaller lines into a railroad system. The properties of the smaller lines were highly desirable in the building up of the main routes of the system or for their value in the origination of traffic. The stockholders of the smaller lines were induced to approve the leasing of their line to the larger road by the latter guaranteeing a specified annual dividend on the preferred and common stocks. For example, the Pennsylvania Railroad leased the Pittsburgh, Fort Wayne & Chicago Railroad in 1871 under a 999-year lease which will expire in 2870. The Pittsburgh, Fort Wayne & Chicago Railroad property constitutes the main line of the Pennsylvania Railroad from Pittsburgh to Chicago. Under the lease the Pennsylvania Railroad guarantees a 7 per cent dividend on both the preferred stock and the common stock of the Pittsburgh, Fort Wayne & Chicago Railroad. Since each class of stock has a par value of \$100, each is entitled to an annual dividend of \$7.

The payment of the rental by the lessee railroad is either in the form of a direct payment of the dividend on the stock to the stockholders or a lump-sum payment to the lessor railroad, which in turn makes the distribution to its stockholders. Most of the leases held by the Delaware, Lackawanna & Western Railroad, for example, provide for payment of the rentals directly to the stockholders, but under the lease of the Cayuga & Susquehanna Railroad the rental is paid in a lump sum directly to the lessor railroad.

A guaranteed stock assumes the nature of a bond in that the dividend on the guaranteed stock, as part of the rental, is a fixed rather than a contingent charge to the lessee. A guaranteed stock

⁷See Chapter Two for a discussion of guaranteed bonds.

differs from a guaranteed bond, however, in two important respects. First, in the instance of a stock, the guarantee applies only to the dividend, whereas in the case of a bond the guarantee applies to the interest and often to the principal as well. Second, in the event of failure to pay the dividend on the guaranteed stock, the stockholder can maintain a cause for action only against the guarantor, whereas in the event of default in the payment of interest or principal on the guaranteed bond, the bondholder has a dual claim enforceable against either the obligor or the guarantor or both.

Investment position. The investment position of a guaranteed stock depends upon (a) the nature of the guarantee, (b) the value of the underlying property to the guarantor, and (c) the financial responsibility of the guarantor. Though adjustments have been made in some cases where the guarantor has become bankrupt, many railroads have continued to pay dividends on guaranteed stock even while in receivership. For example, the 7 per cent stock of the Peoria & Bureau Valley Railroad, guaranteed as to dividends by the Rock Island, Chicago & Pacific Railroad, was selling at about 100, while the Rock Island, Chicago & Pacific Railroad first mortgage 4s of 1988, in default, were selling at 15. The good record of guaranteed stocks has been due in most cases to the importance of the lessor's property to the lessee. If dividends were not paid, a default under the lease would have resulted and the property returned to the lessor stockholders. Guaranteed railroad stocks, as a class, have a good dividend record. Approximately two thirds of the 146 issues outstanding have paid dividends continuously for over forty years. Prior to 1936 the record was practically clear of defaults and many of the issues survived several reorganizations. There have been comparatively few defaults since 1936.

Review Questions

1. Distinguish between a share of stock and a stock certificate.
2. Discuss the nature of the stockholder's interest in the corporation.
3. Distinguish between par value and no par value stock.
4. Indicate the distinction between the position of the bondholder and of the stockholder.
5. Contrast the nature of the interest of the preferred stockholder and the common stockholder.
6. Indicate the significance of the preferred stock provisions.
7. Explain the calculation of the preferred stock dividend requirement.

8. Indicate (a) the meaning, (b) the methods of eliminating large arrearage, and (c) the investment significance of cumulative preferred stock.

9. Explain the meaning and significance of participating preferred stock.

10. Distinguish between simple participating and immediately participating preferred stock.

11. Explain the meaning and significance of convertible preferred stock.

12. A corporation has outstanding a 5 per cent (\$50 par value) cumulative preferred stock which is convertible into three shares of common stock. The management increased the quarterly dividend on the common stock from 10 cents to 25 cents a share and at the same time declared an extra dividend of 45 cents a share on the common stock payable December 31 to stockholders of record on December 12. Calculate the total dividend received for the year by a preferred stockholder who converted the preferred stock into common stock on December 5.

13. Indicate (a) the meaning, (b) the extent of the preference, and (c) the investment significance of stock preferred as to assets.

14. Distinguish between voting and vetoing preferred stock.

15. Explain the nature and investment significance of redeemable preferred stock.

16. May a corporation have more than one class of preferred stock?

17. Discuss the investment significance of preferred stock as a class.

18. Name the investment qualifications of a high-grade preferred stock.

19. Contrast the position of the common stockholder with the bondholder and the preferred stockholder.

20. May a corporation have more than one class of common stock?

21. Contrast the dividend rate on preferred stock and on common stock.

22. Upon what two factors is the payment of common stock dividends contingent?

23. Name four forms of common stock dividend payments.

24. Indicate two bases for the analysis of a corporation's common stock dividend policy.

25. Explain the factors influencing the percentage of earnings distributed.

26. Indicate the chief factor influencing the form of dividend.

27. Explain the relation of corporate surplus and dividend payments.

28. In what ways may a bond indenture or the preferred stock provisions limit the dividend on the common stock?

29. What is meant by an unbroken dividend record?

30. One share of Coca-Cola International common stock is convertible into eight shares of the Coca-Cola Company common stock. Calculate the value of the former with the latter selling at $137\frac{1}{4}$.

31. What is meant by a stock split-up?

32. Explain the reasons for a stock split-up.

33. An investor purchased 100 shares of the common stock of a corporation. Subsequently the corporation split the stock on two occasions, first by reducing the par value from the original value of \$5 to $\$3.33\frac{1}{3}$ and again to \$2.50. Calculate the number of shares held by the investor as a result of the second split-up.

34. A corporation, which was paying a cash dividend on the common stock at the annual rate of \$2.50 a share, split up the stock on a ten-for-one basis and reduced the annual dividend rate on the new common stock to \$1.00 per share. Discuss the significance of this action to the common stockholder.

35. How may a stock split-up of the common stock affect the conversion privilege of an outstanding bond or preferred stock issue which is convertible into the common stock?

36. What is meant by a reverse stock split-up?

37. Indicate the usual effect upon the market price of a common stock of a company which announces new financing.

38. Define a guaranteed stock.

39. Name two respects in which a guaranteed stock differs from a guaranteed bond.

40. Discuss the investment position of a guaranteed stock.

Assignment

- (a) Compare the following investment features of the preferred stocks of Consolidated Edison (N. Y.), and United States Steel: name of stock, dividend rate, par value, asset preference, voting power, vetoing power, cumulative feature, arrearage, callable, convertible, participation, subject to prior bonds, listed.

- (b) Determine the annual dividend in dollars of the following preferred stocks:

| | <i>Dividend Rate</i> | <i>Par Value</i> |
|--------|----------------------|------------------|
| A..... | 7 per cent | \$100 |
| B..... | 7 per cent | \$ 50 |
| C..... | 6 per cent | \$ 25 |
| D..... | \$5 | No Par |

- (c) A corporation has outstanding \$3,000,000 of common stock and \$2,000,000 of 5 per cent preferred stock. Each class of stock has a par value of \$50. If the corporation distributes \$600,000 as current annual dividends, determine the dividend (in dollars and in rate) which would be paid on each class of stock if the preferred stock is cumulative, participating simply, and is in arrears for two years' annual dividend.
- (d) A company that has outstanding 1,500,000 shares of immediately participating 4 per cent preferred stock (par value \$80) and 3,500,000 shares of common stock pays a dividend of \$5,760,000 on the preferred stock and \$2,240,000 on the common stock. Indicate how much of the preferred stock dividend was a participating dividend.
- (e) A preferred stock, paying \$1.50 a share annual dividend, is convertible into $1\frac{1}{4}$ shares of common stock, which pays an annual dividend of \$2 plus extra dividends. Compute the dividend a preferred stockholder would receive were he to convert the preferred stock into common stock.
- (f) Indicate the effect upon the specific individual items in the balance sheet of the payment of a dividend on the common stock in (1) cash, (2) scrip, (3) stock, and (4) property.
- (g) A company that had 38,280 shares of \$5 cumulative preferred stock and 141,792 shares of common stock outstanding reported as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Previous Year</i> |
|-----------------------|----------------------|----------------------|--------------------------|
| Preferred Stock: | | | |
| Earned per share..... | \$31.92 | \$22.02 | \$17.08 |
| Dividend paid..... | 7.50 | nil | nil |
| Common Stock: | | | |
| Earned per share..... | 7.27 | 4.60 | 3.26 |
| Dividend paid | nil | nil | nil |

Account for the failure to pay a dividend on the common stock in each year in view of the earnings on the common stock.

- (h) A stockholder purchased 100 shares of the common stock of a company. The company split up the stock on a four-for-one basis and again on a three-for-two basis. Compute the number of shares that the stockholder would own after the second split-up.
- (i) Account for the change in the price of the common stock of a company from $14\frac{3}{4}$ on October 22, to $37\frac{1}{2}$ on October 23, following a four-for-one split-up of the stock.
- (j) Indicate the guarantor and the nature of the guarantee on the stocks of the following railroads: (1) Beech Creek, (2) Boston & Albany, (3) Cleveland & Pittsburgh, (4) United New Jersey Railroad & Canal, and (5) Vicksburg, Shreveport & Pacific.
- (k) A corporation has outstanding a 6 per cent (\$50 par value) cumulative first preferred stock which is convertible into three shares of common stock. The corporation increased the quarterly dividend on the common stock from 40 cents to 45 cents a share and declared an extra dividend of 45 cents a share on the common stock, both payable December 31 to stockholders of record December 12. If a preferred stockholder converted one share of preferred stock into common stock on December 1, calculate the total dividend he would receive for the year.

CHAPTER FOUR

SECURITY MARKETS

Introduction. Securities are traded either on an exchange or over the counter. Issues traded on an exchange are bought and sold through brokers. A broker is a member of the exchange and acts as an agent in executing the orders of a customer to buy or to sell securities traded on the exchange. He buys and sells for the account and risk of the customer; he does not possess an ownership interest in the securities so bought or sold. He may, and often does, act as a principal in purchasing and selling for his own account. As a principal, however, he must give precedence to orders held for others at the same price. His compensation as a broker is in the form of a commission paid by the customer for whom he executes the order.

Securities traded over the counter, on the other hand, are bought from and sold to dealers. An over-the-counter dealer acts as a principal in buying directly from or selling directly to a customer. He purchases securities outright and acquires ownership of them. He sells securities in outright sale, delivering the securities in which he actually has ownership. His compensation is in the form of a profit representing the difference between the price at which he sells the security to the customer and the price at which he purchased the security. The over-the-counter dealer may also act as a broker by executing orders for his customers on a brokerage basis.

National securities exchanges. The principal function of a securities exchange is to provide a convenient market place where seasoned securities may be bought and sold. Trading in a security listed on the exchange is concentrated at a "post" on the trading floor, which constitutes the "market."

Groups of securities. Exchanges are allowed to have two groups of securities: those that are regularly listed and those that are not listed but are admitted to trading privileges. Some exchanges, such as the New York Stock Exchange and the Cincinnati, the Midwest,

the San Francisco, and the Washington stock exchanges, require that all security issues traded on their floors be listed. Trading on the floor of the New York Stock Exchange, for instance, is restricted to those securities that have been admitted to the Exchange, or, as they are commonly called, "listed" securities.¹

Listing. A corporation seeking to have its security listed on the New York Stock Exchange must file a formal application with the Exchange. The applicant must be a going concern with substantial assets or demonstrated earning power, or both. Particular emphasis is placed by the Exchange upon the degree of national interest in the company, its standing in its field, the character of the market for its products, its relative stability and position in its industry, and whether or not it is engaged in an expanding industry with prospects of maintaining its position. The particular security for which listing is sought must be sufficiently widely distributed to offer reasonable assurance that an adequate auction market in the security exists. The data submitted in support of the application must include: (a) a brief description of the company's business, its products, date of organization, markets where the security to be listed is traded, available data as to recent price range and volume of trading; (b) latest available income account, surplus account, and balance sheet, and copies of annual reports for the past five years; (c) a detailed schedule showing the distribution of the security.

Listing fees. An applicant company whose security is accepted for listing on the New York Stock Exchange must pay a listing fee at the rate of \$50 for each 10,000 shares listed, up to 2,000,000 shares, and \$25 for each 10,000 shares in excess of 2,000,000 shares. In addition to the listing fee, the applicant company must pay the cost of printing the listing application.

Transfer facilities. Facilities for the transfer and registration of stock must be maintained in accordance with the rules of the Exchange. The transfer agent and the registrar may not be identical, and both must be acceptable to the Exchange.² The registrar must be a bank or trust company. The transfer agent or registrar may not be changed, nor may additional transfer agents or registrars be appointed without the approval of the Exchange.

¹ The New York Stock Exchange discontinued its unlisted trading department in 1910.

² Except under unusual circumstances, the New York Stock Exchange requires that the transfer agency be located south of Chambers Street in the Borough of Manhattan, New York City.

Significance of listing. The fact that a security is listed, however, does not place upon it the stamp of investment quality. The listing application is designed to serve the dual purpose of (a) placing before the Exchange the information essential to its judgment as to the suitability of the security for public trading on the Exchange and (b) providing the investing public with information needed to judge the qualities of the security. The listing of a security by the Exchange simply means that the Exchange regards the issue as suitable for public trading on the floor of the Exchange.

Unlisted trading privilege. Many exchanges, including the American Stock Exchange, have also granted unlisted trading privileges to certain issues of securities. In contrast to a listed security, which becomes listed on an exchange through the initiative of the issuer, an issue is admitted to unlisted trading privileges on an exchange through the initiative of the exchange itself.

Unlisted securities that are admitted to trading privileges are divided into three groups: those that had already been admitted prior to March 1, 1934; those that are regularly listed on another exchange;³ and those of companies on which there is available information substantially equivalent to that required for duly listed securities. A security may be admitted to unlisted trading privileges only with the consent of the Securities and Exchange Commission, which must be satisfied that there exists in the vicinity of the exchange a sufficiently widespread public distribution of the issue and sufficient public trading activity in it to render the extension of the privilege "necessary or appropriate in the public interest or for the protection of investors."⁴ Unlisted trading privileges may be terminated only by the Commission, and then either upon the initiative of the Commission or upon application by the broker or dealer who makes or creates the market in the security, or by any other persons having a bona fide interest in such termination.⁵

The New York Stock Exchange. The preëminence of the New York Stock Exchange is evidenced by the fact that it handles approximately 85 per cent of the sales on registered exchanges, 75 per cent of the trading in stocks, and 90 per cent of the trading in bonds

³ The common stock of Consolidated Edison Company of New York, which is listed on the New York Stock Exchange, has unlisted trading privileges on the Boston and San Francisco stock exchanges.

⁴ An issue admitted by the Commission to unlisted trading on an exchange is deemed to be registered with the Commission within the meaning of the Securities Exchange Act of 1934.

⁵ Issuers whose securities are admitted to unlisted trading privileges are not required to pay any fees to the exchange.

on the exchanges. The New York Stock Exchange handled a record volume of 1,124,800,410 shares in 1929. In 1933, when industry was engulfed by depression but security trading was stimulated by devaluation of the dollar, 654,816,452 shares exchanged ownership. The bull market of 1950 involved a volume of 524,-799,621 shares.

Membership. It is a voluntary association of individual members. The membership was increased in 1929 from 1,100 to 1,375, or by 275 seats, each member receiving the right to one-fourth of a new seat which he could dispose of by sale or transfer within three years. The membership was brought to the present total of 1,375 by the transfer of the last of those rights on March 3, 1932. The price of a membership has ranged from \$625,000 in 1929 to \$17,000 in 1942.

Members of the Exchange may be divided roughly into four classes: (a) commission brokers, who constitute about one half of the membership and who handle buying and selling orders in stocks or bonds for the general public for a commission; (b) specialists, comprising one quarter of the membership, who, restricting their trading activities to one or more stocks, buy and sell those stocks for their own account or as floor brokers for other members who have orders to execute in those stocks; (c) odd-lot brokers, representing one tenth of the membership, who buy and sell in less than the standard 100-share trading lots; and (d) floor traders who trade solely for their own account.

Exchange registration. All securities exchanges are subject to federal supervision. Under the Securities Exchange Act of 1934, it is unlawful to effect any transaction on an exchange unless the exchange is either registered with the Securities and Exchange Commission as a "national securities exchange" or has been exempted from such registration by the Commission. An exchange may register with the Commission by filing the prescribed registration statement. The exchange is registered if, in the opinion of the Commission, it—

. . . is so organized as to be able to comply with the provisions of this title and the rules and regulations thereunder, and that the rules of the exchange are just and adequate to insure fair dealing and to protect investors.

An exchange may be exempted from registration by the Commission, however, when:

. . . by reason of the limited volume of transactions effected on such exchange, it is not practicable and not necessary or appropriate in the public interest or for the protection of investors to require such registration.

Among the exchanges exempted by the Commission are the Colorado Springs, Honolulu, Richmond, and Wheeling exchanges. The Wheeling Stock Exchange, for example, consists of seven members representing four firms. The exchange has no trading floor. The members submit their bids and offers to the secretary by telephone and also ascertain bids and offers by this means; members thereafter deal with each other directly. Transactions, however, must be reported to the secretary immediately. The trading unit is ten shares; smaller amounts are considered odd lots.

Security registration. All securities traded on an exchange, except public issues of domestic origin (including federal obligations and instrumentalities and state and municipal bonds), must also be registered with the Commission. Although the registration of a security with the Commission is separate and distinct from the listing of the security with the exchange, the approval of listing by the latter is one of the prerequisites to effectiveness of registration of a listed security. Registration under the Securities Exchange Act of 1934 requires the filing with both the exchange and the Commission of a registration statement conforming to the rules of the Commission, and the certification by the exchange to the Commission that it has received what purports to be a registration statement and has approved the security for listing and registration. Ordinarily registration becomes effective automatically thirty days after receipt by the Commission of the exchange's certification, but may become effective within a shorter period by order of the Commission.

The information required of the issuer in the application for registration may be summarized as follows:

- (a) The organization, financial structure, and nature of the business.
- (b) The terms, position, rights, and privileges of the different classes of securities outstanding.
- (c) The terms on which securities are to be and during the preceding three years have been offered to the public or otherwise.
- (d) The directors, officers, and underwriters, and each security holder of record holding more than 10 per cent of any class of any equity security of the issuer, their remuneration, and their interests in the securities of and their material contracts with the issuer and any person directly or indirectly controlling or controlled by or under direct or indirect common control with the issuer.
- (e) Remuneration to others than directors and officers exceeding \$20,000 a year.
- (f) Bonus and profit-sharing arrangements.
- (g) Options existing or to be created in respect of their securities.
- (h) Balance sheets and profit and loss statements for not less than the three preceding fiscal years, certified by independent public accountants.
- (i) Any further financial statements which the Commission may deem necessary or appropriate for the protection of investors.

The issuer must agree to keep such information reasonably current thereafter.

Over-the-counter market. The over-the-counter market is an equally essential part of the securities markets. It provides facilities for the distribution of new issues among investors and for trading in outstanding issues. The securities traded may be classed as (a) those traded exclusively over-the-counter and (b) those traded both on an exchange and over-the-counter. The issues traded exclusively over-the-counter include such issues as United States Treasury notes and bills, territorial bonds, Federal Land Bank and Federal Home Loan Bank bonds, state bonds, municipal bonds, railroad equipment trust obligations, bank and insurance company stocks, investment trust issues, and real estate bonds.⁶ In addition, many railroad, public utility, and industrial issues are traded exclusively over-the-counter. They consist primarily of small or medium-size issues of small companies. Prominent among the issues that are traded both on an exchange and over-the-counter are United States Treasury bonds and such instrumentalities as Federal Farm Mortgage Corporation and Home Owners' Loan Corporation issues. The volume of trading in these issues, especially Treasury bonds, in the over-the-counter market ordinarily exceeds that on the exchanges. Since transactions in those securities are usually in large blocks, they can be completed more readily over-the-counter than on an exchange. In addition, certain railroad, public utility, industrial, and foreign government issues that have inactive trading markets on the exchanges are also traded over-the-counter.

Dealers. The market in over-the-counter securities is made by dealers within and between their offices at prices established by individual negotiation, that is, through bid and offer prices. Dealers "create" and "maintain" markets in the securities.⁷ A dealer creates a market for a security when he is prepared both to buy and to sell that security at the prices he quotes. He maintains such a market when he continues over a period to quote the prices at which he is ready both to buy and to sell. A dealer creates and maintains a market for any issue of bonds or of stock by announcing openly to the other dealer and broker houses that he stands ready both to buy and to sell that security at the bid price and the offering price

⁶ Most bank, insurance company, and investment trust issues are traded over-the-counter, but a few are traded on the Exchange.

⁷ See Appendix G, "Miscellaneous Announcements," page 523.

that he quotes to those who inquire. For example, a dealer may quote the "market" in a security as "95-95 $\frac{3}{4}$." In that way the dealer announces that he will buy the security from sellers at 95 and will sell to buyers at 95 $\frac{3}{4}$. The combined bid and offering price quotation is called the "market." He quotes the market without knowing in advance whether the inquirer intends to buy or to sell. The option to buy or to sell at the quoted price lies with the inquirer.

The securities houses that act as dealers or brokers in the over-the-counter market include investment banking houses, over-the-counter houses, municipal bond dealers, government bond dealers, stock exchange member firms that operate over-the-counter trading departments, and dealer banks. Many investment banking houses have trading departments through which they deal in outstanding bonds and stocks. They also are extremely active in the primary distribution of new issues of corporate, municipal, and other securities. Over-the-counter houses are engaged chiefly in buying and selling corporate bonds and stocks or foreign securities as dealers or brokers and in creating and maintaining a market for such securities. Municipal bond houses engage chiefly in trading in outstanding municipal issues. They participate with dealer banks and other houses that deal secondarily in municipal issues in creating and maintaining the market for municipal securities of all kinds. They also buy or participate with other houses or with banks in buying new issues of municipal securities directly from the issuers, usually at public bidding, and distribute those securities among investors. Government bond houses, together with dealer banks, create and maintain the market for government issues. As a general rule, however, they also act as dealers in corporate and other securities. Many stock exchange member firms have over-the-counter trading departments through which they buy and sell bonds and stocks in the over-the-counter market as dealers or brokers. The larger commercial banks usually have government bond and municipal bond departments which act as dealers in those obligations. Under the law, banks may act as dealers only in government and municipal bonds.

Dealer specialization. Houses that trade in the over-the-counter market tend to specialize in a particular field. Dealer banks deal only in United States government and municipal issues. Some bond houses specialize in United States government issues and others in municipal issues. A still greater degree of special-

ization is found among municipal bond houses, some of which confine their activities to the obligations of the larger and more important states and cities, others to the obligations of a single state and of municipal issuers within that state. Within the field of corporate issues, some houses specialize in the securities of banks, trust companies, and insurance companies; some in guaranteed railroad stocks; and others in either railroad bonds, public utility issues, or industrial securities. A number of houses specialize in Canadian and other foreign issues. The investor who wishes to buy or to sell a particular security is not obliged, however, to deal only with a house that specializes in that issue. He may effect the transaction with the house through which he ordinarily does business, which makes the purchase or sale directly with a house specializing in the issue. The house through which he ordinarily deals may trade net or may act as a broker and charge a commission.

Significance of specialization. Specialization has resulted in the creation of an open market in which many unlisted securities have gained a degree of marketability as active as that of the average listed security. A house that creates and maintains primary markets for the securities in which it specializes acts as a dealers' dealer. Other dealers and brokers who receive from their customers inquiries or orders to buy or to sell and who know that the house stands ready to buy and to sell that security generally go directly to the specialist house. The specialist house becomes a focal point of buying and selling interest and serves as an intermediary by buying from sellers and selling to buyers. Unlike the exchanges, which are open during established trading hours (often "ten to three"), over-the-counter dealers make their own hours and are generally willing to trade from 10 A.M. to 4 P.M. and even later. Dealers in United States government securities close trading at 3:30 P.M. on full days.

Negotiation. The term "negotiation" has a special meaning in over-the-counter transactions. A person who wishes to sell or to buy a security has the privilege of approaching a dealer directly, or through a broker as agent, a number of houses that deal in the security in an effort to determine the prices at which the houses stand ready to buy or to sell the security. He is not obliged to disclose whether his intention is to buy or to sell. Inasmuch as a number of houses usually make a market in the same issue, trading becomes highly competitive. To attract sellers, a house bids as

high as it profitably can and to attract buyers keeps its offering prices as low as it is profitable to do. The individual who wishes to sell, therefore, has the privilege of seeking out the highest available bid for his holdings. By the same token, an individual who wishes to buy has the privilege of seeking the lowest offer. In addition to determining the market prices, the inquirer may ask the size of the market, that is, the number of shares of the stock or the amount of the bonds the house making the market will trade at the prices quoted. The individual obviously proceeds to negotiate with the house making the best bid or offer, as the case may be.

Quotations. A house that makes a market in an issue usually "maintains a position" in the security by trading (buying and selling) against its position in the issue. It buys and sells for its own account and risk as principal. Over-the-counter dealers make two kinds of quotations: nominal and firm. A nominal quotation is used to indicate an approximate market for a security when no actual bid and asked prices are available, and is subject to confirmation. A firm quotation, on the other hand, means that the dealer is prepared actually to do business at the quoted prices.⁸ It is subject to acceptance within a fixed period of time. A market quotation of "49-51" indicates the range within which the dealer is willing to bargain—that he is willing to pay at least 49 and does not expect to sell for more than 51. To secure an order he is often willing to "close the spread" by bidding $49\frac{1}{2}$ for a specific number of shares or offering a specific number of shares for $50\frac{1}{2}$ on a firm basis. As a rule, competition among dealers keeps prices near a uniform level in every issue and the quotation spread within reasonable limits. Another factor entering into the price is the number of bonds or shares involved. Securities come on the market in varying amounts, ranging from one bond or one share to thousands. The number of bonds or shares involved in the transaction obviously affects the price in the transaction.

Unlike the exchanges, where sales in a particular security are concentrated at one post on the exchange floor and the actual prices at which the security is sold are reported, the over-the-counter market is unable to report all transactions in a security. For this reason the quotations on over-the-counter securities are given in the form of bid and ask prices. The quotations which appear in the

⁸ Unless otherwise specified, quotations of bid and offer prices are on a firm basis.

daily newspapers are reported by representative dealers and are supplied in most instances by the National Association of Securities Dealers.⁹

National Quotation Bureau. To find markets for the many thousands of issues of bonds and stocks traded over-the-counter, the dealer must find the dealers throughout the country who are making a market in, or who are actively interested in buying or selling, the particular issue. This service is provided by the National Quotation Bureau, Inc. (New York), which collects and disseminates quotations daily to its subscribers in all parts of the country.¹⁰ The daily service reports the names of the dealers and the bid and offering prices quoted by the dealers in the bond and stock issues in which they are creating and maintaining markets, or in which they have a buying or selling interest. By means of this service the dealer having an order to buy or to sell a particular security learns the names of the houses reported as making a market or having a buying or selling interest in that security, and the bid and offering prices which they are quoting. There is no assurance that the prices quoted the previous day still prevail in the face of overnight economic, financial, or political developments, but the dealer with the order at least knows with whom to open negotiations.

Federal supervision. The over-the-counter market is also subject to the supervision of the Securities and Exchange Commission. Under the Securities Exchange Act of 1934, dealers or brokers may not lawfully do business in the over-the-counter market unless registered with the Commission. Exemption from this requirement is extended to dealers and brokers whose business is exclusively intrastate or who deal only in exempt securities (United States Government and municipal securities), commercial paper, bankers' acceptances, or commercial bills. Registration of dealers has two purposes: (a) to bring dealers and brokers within the control and supervision of the law and of the Commission, and (b) to facilitate legal proceedings. Registration is effected by filing a broker-dealer registration statement with the Commission. The registration statement becomes effective thirty days after filing unless the Commission denies registration. Registration of a dealer, however,

⁹ The *Wall Street Journal*, for example, indicates that the over-the-counter market quotations are "obtained from the National Association of Securities Dealers, Inc., and other sources but are unofficial. Origin of any quotation will be furnished on request."

¹⁰ Dealer subscribers to this service must meet stringent requirements.

does not mean that the Commission has in any way passed upon the business of the dealer.¹¹ Any false, fraudulent, or misleading statement, or any misrepresentation, constitutes ground for suspension or revocation of registration.

The problem of supervision of over-the-counter brokers and dealers is reflected to some extent in the fact that approximately 4,000 such brokers and dealers are registered with the Commission.

National Association of Securities Dealers. Regulation of the over-the-counter market by the Commission is effected through the National Association of Securities Dealers. This Association was organized under authority of the Maloney Act of 1938. The Maloney Act amended the Securities Exchange Act of 1934 by adding a separate section (Section 15A) which permits associations of brokers or dealers to register with the Commission as national securities associations or as affiliated securities associations under required terms. While an association as such is not required to register with the Commission, registration is necessary if the association wants to exercise over its members an effective regulation of the scope provided for in the Act. The registration of the National Association of Securities Dealers, Inc., became effective August 7, 1939. It is a non-profit membership corporation supported by dues, assessments, and other charges paid by the members.¹² A unique provision of the Maloney Act is that members of the association, when registered with and approved by the Commission, may do business with each other on preferential terms which may not be extended to non-members. Since non-members may not enjoy the customary price concessions from wholesalers to retailers, practically all of the more active dealers and brokers in corporate securities are members.

Any broker or dealer engaged in the over-the-counter business is eligible for membership provided only that he has never been expelled from a national securities exchange or a national securities association. Rules of fair practice adopted by the membership are filed with the Commission. The Association has adopted the rules of the Commission governing transactions in the over-the-counter market and, in addition, other rules of fair practice not covered by the rules and regulations of the Commission. The self-disciplinary actions of the Association are subject to review by the Commission. The predominant position of the Association in regulating the over-

¹¹ Securities and Exchange Commission, Rule X-15C1-3.

¹² Dealers in tax-exempt securities are not required to join.

the-counter trading is strengthened by the fact that its members account for over 90 per cent of the volume of trading in over-the-counter securities.

Listed v. over-the-counter securities. Listing has much more significance in the case of stocks than of bonds. Approximately twice as many stock issues as bond issues are registered on national exchanges. Stocks are bought and sold primarily through the exchanges; bonds are usually bought and sold over-the-counter.

Listed securities. The chief advantage of listed securities as a class is the marketability that such securities enjoy. This quality arises from three factors. One, an exchange provides a market place where buyers and sellers meet. The full force of demand and supply on a national and even on an international scale finds a central point of concentration on the exchange floor. It is estimated that about 85 per cent of the trading on the New York Stock Exchange arises from out-of-town sources. Here the value of a security is best-known and, as a result, the most favorable price is obtainable. Two, the continuous market in the security and the instantaneous reporting of transactions provide the investor with the latest information on the market appraisal of the value of the security.¹³ Three, the collateral value of the security is enhanced by the fact that it is listed. Banks are chiefly concerned with the relative convenience with which the collateral pledged as security for a loan may be converted into cash in the event the loan is not paid.

Over-the-counter securities. On the other hand, the suitability of an issue to trading either on an exchange or over-the-counter is determined largely by the nature of the security. Some securities have certain features or qualifications that make them especially adaptable to trading in the over-the-counter market. Among those features or qualifications are: eligibility for purchase by banks and insurance companies; limited distribution of the issue; the absence of a speculative interest; a continuously high price for the issue; and a small capitalization of the issuer. Institutional investors such as banks and insurance companies usually buy and sell securities in large blocks. These investors find it necessary to make the purchase or sale quickly, in a single transaction and at a predetermined price. They desire to avoid a public record of large purchases or sales of bonds because of the adverse effect such a transac-

¹³ Many stocks traded on the New York Stock Exchange or on the American Stock Exchange are also traded on the San Francisco Stock Exchange.

tion may have on the market price of such issues, especially since the purpose of the transaction may be simply to improve the diversification of the portfolio or to shift from lower to higher yielding bonds. Furthermore, since a large buying order on the Exchange at a limited price must give precedence to all orders having priority at that price, the institutional order would experience difficulty in completion at the limited price. The over-the-counter dealer is in a better position to provide this service than the stock exchange broker. He stands ready in some instances to buy the entire block for his own account at a definite price. He expects to resell the block to his own customers and to other dealers who have orders for the security on their books. Sometimes the dealer succeeds in placing the entire block with another bank or insurance company.

Inactive securities. An inactive security is one in which transactions happen infrequently. Such securities are usually characterized by limited distribution, the absence of speculative interest, a high price, or a small capitalization. A continuous flow of buying and selling orders is generally absent in an issue that (a) is distributed among a limited number of holders, (b) is attractive to investment rather than speculative buyers, (c) sells at such a high price as to limit the number of prospective buyers, or (d) is outstanding in a small amount. In a security that is held by a limited number of investors, there is little likelihood that at any one time an appreciable percentage of them will wish to sell or that public interest will spontaneously generate a large number of buying orders. Many high-grade securities, such as some guaranteed railroad stocks and some bank and insurance company stocks, are held primarily for investment, that is, for regular income rather than for speculative profit through appreciation in price. A high price for a security diminishes speculative interest and trading activity. A greater volume of trading occurs in transactions of 100 shares at \$50 a share than in transactions of ten shares at \$500 a share. Dealers provide a ready market for inactive issues offered for sale by buying them for their own account and risk and by finding buyers for them.

Credit transactions. A security may be purchased either outright for cash or on margin. In an outright purchase the buyer pays the full price for the security in cash. In a purchase on margin, however, the buyer pays only part of the purchase price in cash and borrows the balance from the broker. Under the Securities Exchange Act of 1934 the amount of credit that may be extended

by brokers and dealers on listed securities for the purchasing and carrying of securities is subject to the rules and regulations of the Board of Governors of the Federal Reserve System. The Federal Reserve authorities are instructed by the law to keep themselves informed as to "whether undue use is being made of bank credit for the speculative carrying of or trading in securities, real estate, or commodities," and are authorized to take certain actions to prevent undue use of credit in those fields.

Regulation T. Regulation T of the Board applies to extensions of credit by brokers and dealers on listed securities, and Regulation U applies to loans on stocks by banks. Regulation T limits the amount of credit that may be extended on a registered security in a general account by prescribing a maximum loan value, which is stated as a specific percentage of the market price of the security at the time of the extension of credit. The Board has changed the maximum loan value and hence the minimum margin requirement from time to time as indicated by the following:

| <i>Date Effective</i> | <i>Maximum Loan Value</i> | <i>Minimum Margin</i> |
|------------------------|-------------------------------|---------------------------|
| July 5, 1945..... | 25 | 75 |
| January 21, 1946..... | nil | 100 |
| February 1, 1947..... | 25 | 75 |
| March 30, 1949..... | 50 | 50 |
| January 17, 1951..... | 25 | 75 |
| February 24, 1953..... | 50 | 50 |
| January 4, 1955..... | 40 | 60 |
| April 23, 1955..... | 30 | 70 |

The "margin requirement," or the minimum cash payment by the buyer is expressed, therefore, as the difference between the market price of the security (100 per cent) and the maximum loan value.

Regulation T, as a means of controlling the use of credit in the securities market, applies only to the minimum margin required at the time of the purchase of listed securities. It does not prescribe the action of the broker in the event of a decline in the market price of the stock purchased on margin. Subsequent carrying margins are subject to stock exchange control.

Significance of Regulation T. One purpose of government control of margin trading was to make security prices more stable by requiring such high initial margins that minor reactions in prices would not create distress selling. To have required traders to maintain such high initial margins at all times would have defeated the primary purpose of the regulation. A decline in market quotations acts only to curtail the purchasing abilities of margin traders,

since the Board regulation prohibits the execution of an order that would cause a trader's debit balance to be greater than the specified percentage of his collateral. Such a decline in market price would not result in distress selling unless and until margins had shrunk to the minimum set by the New York Stock Exchange or by an individual broker.¹⁴

Security price manipulation. The Securities Exchange Act of 1934 prohibits the manipulation of security prices, the dissemination of false or misleading information, and the unfair use of "inside information." Increased activity in an issue accompanied by rising prices usually arouses the interest of the speculative public. Manipulators, aware of this psychology, seek to create artificial activity either by executing a series of deceptive transactions or by disseminating false information designed to cause the speculating public to augment supply or demand. The Act prohibits the creation of a false or misleading appearance of active trading in any security by either (a) effecting a transaction in a security which involves no change in the beneficial ownership of the security or (b) entering an order for the purchase or sale of a security with the knowledge that at the same time an order of the same size and at the same price for the sale or purchase of the security has been or will be entered by or for the same or different parties.

Matched orders and wash sales. The two types of deceptive transactions used to stimulate trading activity are "matched orders" and "wash sales." "Matched orders" are concurrent orders placed by the manipulator. One order is placed through one broker to buy a given number of shares of the stock at a price above the market, and the other order is placed through another broker to sell the same number of shares of the same stock at the same price. The transactions are purely fictitious; nevertheless they imply market activity in the stock, keep the stock on the ticker and the financial page, and make it appear in a strong position because of its activity and the advance in price. The purpose is to deceive buyers, who may become sufficiently interested to take the stock off the manipulator's hands at an artificially high price. The brokers executing the orders are not necessarily involved in the manipulation. The "wash sale" is also a fictitious transaction with the collusion of brokers who agree among themselves to create an artificial price for the stock by means of identical buying and selling transactions.

¹⁴ See Chapter Five for a discussion of margin operations.

The seller never expects to hold the buyer for payment nor does the buyer expect to receive any stock.

False information. The Securities Exchange Act of 1934 also prohibits the dissemination of false or misleading information with respect to market prices or values. It is unlawful for any dealer, broker, or other person to induce the purchase or sale of any security by the "circulation or dissemination in the ordinary course of business of information to the effect that the price of any such security will or is likely to rise or fall because of market operations of any one or more persons conducted for the purpose of raising or depressing the prices of such security," or by making any statement "which was at the time and in the light of the circumstances under which it was made false or misleading with respect to any material fact, and which he knew or had reasonable ground to believe was so false or misleading." Rule X-10B-5 of the Commission provides in part that it is unlawful for any person, directly or indirectly "to engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security."

The determination of the New York Stock Exchange to prevent the dissemination of false or misleading information was expressed in the following letter to members of the Exchange:

The principle expressed in the Exchange's own rules, as well as in the securities laws, are opposed to the use of manipulative, deceptive or other fraudulent devices for the purpose of influencing unfairly the market price of any security. . . . The preventive is ceaseless vigilance. This means that there must be the most careful scrutiny and supervision of orders flowing through the offices of our members and member firms. It means that unsubstantiated reports of any character must not be repeated by those who represent our firms in their relations with the public. It means use of the greatest discretion in the literature issued by our firms to the public. It means that the well-established principle of truthful disclosure of facts, as the basis upon which security values should be judged must always be kept in mind as the essence of Exchange policy.

Inside information. To control the use of "inside information" the Securities Exchange Act of 1934 requires every person who is directly or indirectly the beneficial owner of more than 10 per cent of any class of stock that is registered on an exchange, or who is an officer or director of the issuer, to file a statement of his holdings of such securities and to keep it up to date by filing monthly statements showing any change in his holdings. The Act also provides that any profit realized by such persons from any purchase and sale, or any sale and repurchase within any period of less than six months

“unless such security was acquired in good faith in connection with a debt previously contracted,” shall inure to and be recoverable by the issuer “irrespective of any intention on the part of such beneficial owner, director, or officer in entering into such transaction of holding the security purchased or of not repurchasing the security sold for a period exceeding six months.” Suit to recover such profit may be instituted by the issuer or by the owner of any security of the issuer in the name of and in behalf of the issuer if the issuer fails or refuses to bring suit within sixty days after the request or fails diligently to prosecute the suit. In no instance, however, may the suit be brought more than two years after the date on which the profit was realized.

Commission rules. In accordance with the power granted under the Securities Exchange Act of 1934 to define by rules and regulations “such devices or contrivances as are manipulative, deceptive, or otherwise fraudulent,” the Commission has adopted several pertinent rules. Before the completion of an over-the-counter transaction, the dealer or broker must (a) send to the customer a confirmation disclosing whether the firm is acting as a principal or as an agent; (b) disclose or agree to disclose the name of the person on the other side of the transaction, if the firm is acting as an agent; (c) state the source and amount of commission. If the broker-dealer is in a relationship of “control” with the issuer, he must reveal the existence of such relationship to the customer before effecting any transaction in the issue. A broker who is financially interested in the primary or secondary distribution of an issue, or a dealer who has such an interest and who at the same time is receiving a fee from a customer for giving investment counsel, is required to give written notice to the customer of the existence of the interest before completing the transaction. A broker or dealer engaging in the distribution of securities traded over-the-counter is restricted in his offerings “at the market.” He is prohibited from representing that the security is being offered “at the market” or at a price related to the market price, unless he has a reasonable basis for believing that a market for the security exists other than that which is made, created, or controlled by him or by associated interests.

Commission enforcement. In enforcing the provisions of the Securities Exchange Act of 1934 outlawing manipulative practices, the policy of the Commission has been based upon the principle that it is more in the public interest to prevent than to punish fraud. The Commission obtains information about manipulation from

many sources: (a) complaints received from the public; (b) reports of security transactions which are filed by officers, directors, and principal stockholders under the provisions of Section 16; (c) Commission studies of all secondary distributions, based upon information voluntarily furnished by certain members of the exchange; (d) stock tickers, which are maintained at both the Washington office and at the New York regional office and which are watched by tape readers; (e) systematic observation by the Commission of the market behavior of all securities on all national securities exchanges, and the interpretation of the price and volume movement of all securities on the basis of all factual information that can be obtained. The Commission maintains at the Washington office a trained staff of specialists with practical experience in trading, as well as economists and technicians, whose sole responsibility it is to observe systematically by broad industrial categories the movements in both price and volume of all securities and to develop from such studies probable cases of manipulation.

Commission procedure. The Commission reviews and interprets all complaints and reports of suspicious market movements as well as the Commission's own first-hand information.¹⁵ In some instances a preliminary review convinces the Commission that there has been no violation of the anti-manipulation provisions of the Act. In other instances a "flying quiz" is made to supply any essential missing facts by interviewing exchange officials, members, and other brokers and dealers. The case is again reviewed and, if no violation appears to have occurred, it is closed. On the other hand, if the "flying quiz" confirms the Commission's original suspicion of manipulation, a preliminary trading investigation is undertaken. This may be followed by a formal trading investigation that may require individual customers and other persons to supply additional information necessary to complete the case.

Review Questions

1. Name the two markets on which securities may be traded.
2. Distinguish between a broker and an over-the-counter dealer.
3. Discuss the function of a national securities exchange.

¹⁵ The Commission frequently requests members of the Exchange to report in detail on round-lot trading in listed stocks for their own account and for the account of others. Such a request was made in September, 1944, in connection with trading in low-priced motor stocks, and again in October when the market showed a downward tendency. Under a New York Stock Exchange ruling effective in November, 1944, all members and member firms are required to submit weekly reports on round-lot transactions in listed stocks initiated on the Exchange floor for their own account or for an account in which they have a direct or indirect interest.

4. Name and describe two groups of securities traded on a national securities exchange.
5. Name four classes into which members of the New York Stock Exchange may be divided.
6. Discuss the significance of the Securities Exchange Act of 1934.
7. What is meant by a "registered" exchange? An "exempt" exchange?
8. What is meant by a "registered" security?
9. Indicate the significance of the over-the-counter market.
10. Distinguish between "creating a market" and "maintaining a market."
11. Discuss the significance of dealer specialization.
12. What is meant by "negotiation" in the over-the-counter market?
13. Distinguish between a "nominal" and a "firm" quotation.
14. Explain the function of the National Quotation Bureau.
15. Explain the meaning and purpose of the registration of over-the-counter dealers.
16. Indicate the significance of the National Association of Securities Dealers, Inc.
17. Explain the sources of marketability attributed to listed securities.
18. Discuss the qualifications of securities suitable for over-the-counter trading.
19. Under what conditions may a security be delisted or removed from unlisted trading privilege?
20. Explain the significance of Regulation T of the Federal Reserve Board.
21. Indicate the current maximum loan value and minimum margin requirement.
22. Distinguish between "matched orders" and "wash sale."
23. Explain the significance of Section 16 of the Securities Exchange Act of 1934.
24. Indicate the sources of information used by the Securities and Exchange Commission in the regulation of security price manipulation.

Assignment

- (a) Indicate whether the following securities are traded on an exchange or over-the-counter: United States Treasury 2 $\frac{3}{4}$ s of 1960-65; New York Central Railroad 4s of 1998; Texas Corporation 3s of 1965; New York State 5s of 1971; Government of Puerto Rico 4 $\frac{1}{2}$ s of 1959-56; International Harvester preferred; Cluett, Peabody & Co. 7 per cent preferred; Pittsburgh, Fort Wayne & Chicago preferred; General Motors common; Aluminum Company of America common; Chase National Bank common; Guaranty Trust Company common; Connecticut General Life Insurance Company common.
- (b) Indicate the specific markets on which the following stocks are traded: Consolidated Edison Company (New York) common; Seiberling Rubber Company common; A. G. Spalding & Bros. 5 per cent debentures and common.
- (c) Indicate the minimum initial margin required on 100 shares of a listed stock purchased on margin at 78 $\frac{3}{4}$ when the maximum loan value under Regulation T is (1) 50 per cent, and (2) 25 per cent.
- (d) Indicate (1) the specific exchange in New York City on which each of the following stocks are traded, and (2) whether they are listed or unlisted on that exchange: Aluminum Company of America, Sherwin Williams, Humble Oil, the Midvale Co., Atlas Plywood, Illinois Zinc, and Thor Corp.

CHAPTER FIVE

SECURITY MARKET OPERATION

Introduction. Security transactions on the New York Stock Exchange are conducted through members of the Exchange who act as brokers and who receive a commission as compensation for their services. The seller sells through a broker, to whom he pays a commission, and the buyer buys through a broker, to whom he pays a commission. Thus two commissions are involved in every transaction. Minimum commission rates are established by the Exchange, but each brokerage house is free to charge higher rates if it elects. Competition between brokerage houses, however, tends to keep rates on a uniform basis at the established minimum.¹

Price quotations.² Price quotations on the market are in terms of the established unit of trading, which is \$1,000 principal amount for a bond and 100 shares for stocks. Bond prices are expressed as a percentage of the principal amount; stock prices are stated directly in dollars per share. A bid of 85 for a bond is an offer to pay \$850 for a \$1,000 principal amount of bond, and an asked price of 85 for a bond is an offer to sell a \$1,000 principal amount of bond for \$850.³ Similarly, a bid of 45 for a stock is an offer to buy 100 shares of the stock at \$45 a share, and an asked price of 45 for a stock is an offer to sell 100 shares of the stock at \$45 a share.

Orders that exceed the established unit of trading or involve a security selling at a relatively high price frequently cannot be filled at the prevailing quotation. For example, an order to buy \$5,000 principal value of a bond issue which is quoted 92-94 may have to be executed on a basis of \$2,000 at 94, \$2,000 at 94¼, and \$1,000

¹ See Chapter Six page 115 for a schedule of minimum commission rates.

² See Appendix B, "Reading the Financial Page," page 504.

³ Quotations on partially redeemed bonds listed on the New York Stock Exchange are in terms of actual dollar value instead of a percentage of the principal or remaining principal value.

at $94\frac{1}{2}$. Similarly, an order to buy 500 shares of a stock which is quoted $46-46\frac{1}{2}$ may be filled on a basis of 100 shares at $46\frac{1}{2}$, 200 shares at $46\frac{5}{8}$, 100 shares at $46\frac{3}{4}$, and 100 shares at $46\frac{7}{8}$. To cite a concrete example, a broker received a market order to buy 500 shares of a well-known industrial stock. He was able to buy 100 shares at $43\frac{1}{2}$, 100 shares at the next offering price of $44\frac{1}{4}$, and 100 shares at $44\frac{3}{4}$. The next offering price was at 46. On the other hand, an order to sell \$5,000 principal value of a bond issue quoted at $92-94$ may be filled on a basis of \$2,000 at 92, \$2,000 at $91\frac{1}{2}$, and \$1,000 at $91\frac{1}{4}$. In like manner, an order to sell 500 shares of a stock quoted at $46-46\frac{1}{2}$ may be executed on the basis of 100 shares at 46, 200 shares at $45\frac{7}{8}$, 100 shares at $45\frac{3}{4}$, and 100 shares at $45\frac{5}{8}$.

By the same token, stocks selling at relatively high prices are frequently inactive, and offers to buy may be difficult to fill. For example, on a recent date, the high-priced Coca-Cola International common had not sold in more than two years and had been quoted for more than six months at 820 bid, with none offered. A month later the quotation was changed to 1,000 bid, which was 530 points above the previous sale two years earlier at 470.⁴ A sale of Cleveland, Cincinnati, Chicago & St. Louis Railroad common stock took place early in April of a recent year at 155. Two weeks later the tape advertised the offer of a buyer to purchase ten shares of the stock for "cash" at 165, but this did not bring out any stock. In May the same buyer bid 166 for "cash" without success, and in June the stock was quoted 170 bid, none offered.

Market and limit orders. The order that an investor may give to his broker to buy or to sell a security may be either a "market" order or a "limit" order. An order "at the market" instructs the broker as soon as he can reasonably transmit the order to his representative on the floor of the exchange to execute the order at once at the best price then quoted at the post. On a quotation at the post of 45 bid, 46 asked, a buy order would be executed at 46 and a sell order at 45. In a market order, the investor places no price limitation on the order but does place upon the broker the responsibility of executing the order at the best price available in the market at the time.⁵ By "best price available" is meant the lowest price

⁴ Other instances of extremely high prices of stocks are Texas Land Trust, which in 1926 sold from a low of \$510 to a high of \$2,040, and Michigan Central, which in 1928 sold at \$1,600.

⁵ A customer may also give the broker a discretionary order, i.e., an order to be executed at a price which is left to the discretion of the broker.

for a buy order and the highest price for a sell order. The market order has the advantage of immediate execution but, on the other hand, the best price at the time may not be entirely satisfactory.

In a "limit" order the investor places a price limitation by which the broker is bound. An order to buy at 52 means that the maximum price which the investor is willing to pay for the security is 52. The broker in executing the order may not pay more than 52 and, if possible, should pay less.⁶ An order to sell at 52, on the other hand, means that 52 is the minimum price for which the investor is willing to sell. The broker may not sell for less than 52, and, if possible, should sell for more. The broker, therefore, will not buy until the price goes down to the specified figure or sell until the price goes up to the specified figure. A limit order has the advantage of execution only at the price set by the investor, but market quotations away from the stipulated price may cause delay or failure in completing the order. In general, market orders are probably more satisfactory for securities with good marketability as evidenced by a narrow spread between bid and asked prices, whereas limit orders are more advisable in securities of limited marketability and hence with a wide spread between bid and asked prices. Similarly, a market order to buy in a rising market or to sell in a declining market is preferable to a limit order.

Day and open orders. A limit order may be either a "day" or "open" order. A day order is good only for the day on which it is received; and if not executed on that day, it is automatically cancelled. An open order, on the other hand, remains effective until it is either executed or cancelled. Such orders are known as "G.T.C."—"good 'til cancelled." Open orders may also be limited to a specified period, such as "good for the week" or "good for the month." The former is good until the expiration of the last trading day of the week in which the order is entered and the latter expires on the last trading day of the month in which it is given. All limit orders, however, are considered day orders unless otherwise stated.

The open order is useful to the investor who has decided upon a definite price at which he is willing to buy or sell the security and who is willing to wait until the market reaches that price. An open order to buy at a price substantially below the current market presents the possibility, however, of being filled after a considerable

⁶ Buying orders are automatically reduced by the amount of the dividend when the stock goes ex-dividend.

interval and at a time when the security may be either no longer attractive or continuing to decline to lower levels. It is the practice of some brokerage houses to mail a confirmation to the customer each Friday of the orders "in open." If, at the end of three months, the order has not been executed or cancelled, the customer is requested to return a signed confirmation if he wishes the order to remain open.

Odd-lot orders. The established unit of trading in a great majority of the stocks on the New York Stock Exchange is 100 shares. The only exception is a special group of stocks in which activity is limited by one factor or another and that are traded in units of ten shares at the inactive post (Post 30). An order for the purchase or sale of less than the established unit of trading is considered an odd-lot order. A broker who receives an odd-lot order does not execute the order directly but places it with an odd-lot brokerage firm which stands ready to buy or sell lots of one to ninety-nine shares. An odd-lot brokerage firm that handles odd-lot orders on the floor of the New York Stock Exchange is known as an odd-lot dealer. The odd-lot dealer fills odd-lot buy orders in a stock either from odd-lot sell orders in the stock which he may have on his books or from his round-lot purchases of the stock. In like manner, he fills odd-lot sell orders in a stock either from odd-lot buy orders on his books or by selling round lots in the market. From the standpoint of the odd-lot dealer, the most desirable situation is one in which, for example, the accumulated orders to buy at a given price match exactly the accumulated orders to sell at the market. Usually, however, he has a balance either to be bought or to be sold. If the balance aggregates an even 100 shares, he will buy it or sell it, as the case requires, in the round-lot market. On the other hand, if, as is usually the case, the balance is not divisible by 100, he either buys more shares than he needs in order to fill odd-lot buy orders or sells more than he has in order to fill odd-lot sell orders. In the latter instance he runs some risk of a sudden change in the market, but the brevity of the interval reduces the risk to a minimum.

Market order. A market order for an odd-lot transaction is executed at the odd-lot differential of one eighth of a point for a stock selling below 40 and of one quarter of a point for a stock selling at 40 or above.⁷ For example, a market order to sell an odd-lot is

⁷ Effective September 1, 1942, the New York Stock Exchange reduced the unit of trading in sixteen comparatively inactive and high-priced stocks from 100 shares to 10 shares and moved twelve stocks formerly traded at Post 30 (the inactive post) to active posts, with the latter group's trading unit remaining at 10 shares. Specialists

executed at one eighth less than the market price of the next round-lot transaction. If the next round-lot sale is at 25, the price to the seller of an odd-lot is $24\frac{7}{8}$. Similarly, a market order to buy an odd-lot is executed at one eighth more than the market price of the next round-lot transaction. If the next round-lot sale is at 25, the price to the buyer of an odd-lot is $25\frac{1}{8}$. The odd-lot differential is not in lieu of a brokerage commission but is an additional charge.⁸

Limit order. A limit order for an odd-lot transaction is not executed until the prevailing market price reaches the one-eighth differential. For example, an odd-lot order to sell at 35 is not filled until the market price reaches $35\frac{1}{8}$. Then the odd-lot broker buys for his own account the shares that the odd-lot customer ordered his broker to sell. In like manner, an odd-lot order to buy at 35 is not filled until the market price reaches $34\frac{7}{8}$. Then the odd-lot dealer sells to the commission broker's customer the shares he has ordered. The odd-lot dealer, therefore, buys from odd-lot customers orders that can be sold at higher prices on the round-lot market and sells odd-lot customers shares which can be bought at lower prices in full lots. The profit to the odd-lot dealer is the one eighth of a point differential.

Significance. Odd-lot trading enables the small trader with restricted capital to make a limited investment in each of several stocks and thus to obtain greater diversification than would be possible if he were obliged to buy only in round-lots. On the other hand, the odd-lot differential increases the cost to him of the purchase of a stock, and decreases the net proceeds to him from the sale of a stock. Odd-lot trading also encourages speculation by those least prepared to assume the risks attendant upon speculation.

Delivery. A security may be sold on the Exchange on a cash,

and odd-lot dealers at the inactive post service the entire twenty-eight stocks involved as the 100-share unit stocks are now serviced, with the main exception that the differentials charged by odd-lot dealers on lots smaller than 10 shares are 25 cents a share when they sell under \$75 and 50 cents a share when they sell at \$75 or over. At the same time, the odd-lot dealers at Post 30 announced that differentials charged on odd-lots of stocks dealt in at that post were changed to correspond with differentials charged after September 1, 1942, on odd-lots of 10-share unit stocks dealt in at the other posts.

⁸Since January 1, 1938, all odd-lot dealers on the New York Stock Exchange have been required to charge, in addition to the round-lot differential, an amount sufficient to cover the state and federal transfer taxes. While for several years the three large odd-lot houses and three smaller specialist and odd-lot houses had passed on this tax to the odd-lot buyer, two other houses had absorbed it. The effect of this ruling was to place all odd-lot brokers, including those who handle only odd-lots in the stocks in which they are all specialists, on an equal basis.

regular, or delayed delivery basis.⁹ A cash delivery transaction is one in which delivery is made and payment received on the same day as the purchase or sale. It must be specified as a cash sale, however, at the time of offer and acceptance. A security sold for regular delivery must be delivered by 12:00 P.M. on the fourth full business day following the date of sale. The dates of delivery "regular way" are as follows:

| <i>Date of Sale</i> | <i>Date of Delivery</i> |
|---------------------|-------------------------|
| Monday. | Friday |
| Tuesday. | Monday |
| Wednesday. | Tuesday |
| Thursday. | Wednesday |
| Friday. | Thursday |
| Saturday. | Thursday |

Sales made on Thursday and Friday are deliverable on Wednesday and Thursday, respectively, since Saturday is not a full business day. Should a holiday fall on a normally full business day, delivery is delayed one day. If, in the instance of a sale on Monday, the next day, Tuesday, is a holiday, delivery is not made until the following Monday. Unless otherwise specified, delivery regular way is implied in every transaction.

Delayed delivery. A security sold on a delayed delivery basis is deliverable on or before the date specified in the sale. For example, a seller may not be prepared to make delivery in the regular way and sells the stock on a delayed delivery basis—"seller's option 7." The buyer agrees to allow the seller the option of making delivery within seven days. In the sale of stock, the option may run for not less than three days and for not more than sixty days. In a bond sale, the delayed delivery is indicated by "S7F," meaning that the seller has the option of making delivery within seven days but the interest accrues only up to but not including the day of regular delivery—after that the bond is "flat" so far as accrued interest is concerned.¹⁰ On all contracts involving more than four days, written contracts must be exchanged not later than the day following the transaction. One day's notice is usually given before the securities are delivered, the seller giving notice by 4 P.M. on the day previous to his delivery of the security. The use of a delayed

⁹ In the over-the-counter market, trading for the most part is conducted according to unwritten rules based upon accepted custom and usage, which have come to be regarded as standard practice governing transactions. In general and insofar as they can be adapted to over-the-counter trading, the rules of the New York Stock Exchange pertaining to the mutual relations of its members serve as a pattern.

¹⁰ See Chapter Six page 103 for a discussion of accrued interest.

delivery option is restricted to actual owners of securities. Short sellers are not permitted to use the delayed delivery option.¹¹ In one trading session on the New York Stock Exchange "regular sales" of American Telephone & Telegraph common at 149⁵/₈ were accompanied by "cash" sales at 150 and "seller 10" sales at 149¹/₄. Since the price in "regular" sales is basic, "cash" sales are at a premium whereas "delayed" sales are at a discount.

Negotiability. Under the Personal Property Law of New York (Section 183) delivery is defined as the "voluntary transfer of possession from one person to another." Bonds and stocks are negotiable and may be transferred either by endorsement and delivery or by simple delivery. A stock certificate as an instrument does not possess the qualifications of negotiability; nevertheless it has been made negotiable under a uniform stock transfer law approved by the Commissioners on Uniform State Laws in 1909 and adopted by many of the States. New York enacted a Uniform Stock Transfer law in 1913 and New Jersey in 1916. Title to a registered bond and to a stock is transferred by endorsement, or assignment, and delivery. A registered bond is payable to, and the ownership of a stock certificate rests with, the individual or institution whose name is inscribed on its face and requires transfer when the ownership changes.

Assignment. The registered bond certificate and the stock certificate have an assignment form printed on the back by which transfer can be effected. The usual assignment form on a stock certificate is as follows:¹²

For value received, hereby sell, assign, and transfer
unto shares of the capital stock represented by the within certificate and do hereby irrevocably constitute and appoint
. attorney to transfer the said stock on the books
of the within-named company with the full power of substitution in the premises.
.

Dated, 19....

In the presence of:
.

The assignment form provides a space for the name of a witness to the signature. Anyone may act as witness, except that in a few states a married woman's assignment of a stock certificate must be acknowledged before a notary public. The endorsement or assignment must be guaranteed by a responsible financial institution.

¹¹ See page 84 for a discussion of short selling.

¹² Though the assignment form provides for the signature of a witness, such signature is no longer required.

It is the custom of New York Stock Exchange member firms to guarantee the execution of the assignment of stock received by them from their customers for sale on the Exchange. A proper representative of the firm stamps "Signature Guaranteed" and writes his name below the stamped notation, which means that the firm guarantees to the future holder that the signature is genuine and that the person making the assignment has full right to do so. The law holds the firm responsible if the signature is a forgery or if the assignment is not made with proper authority. If there is uncertainty as to the signature, the assignment should be guaranteed by the customer's bank or acknowledged by a notary public. A certificate in proper form, properly signed in blank, properly witnessed, and guaranteed by a member of the Exchange is good delivery on the Exchange and may pass from hand to hand without modification.

The stock certificate of the American Telephone & Telegraph Company, for example, states:

The signature of the stockholder to the assignment must correspond with the name as written upon the face of the certificate in every particular without alteration or enlargement or any change whatever. The signature should be guaranteed by an incorporated bank or trust company, or by a New York, Boston, Philadelphia, Midwest, or Washington stock exchange member or firm, whose signature is known to the transfer office, or witnessed by a responsible person whose signature is known. If it is impracticable to secure such guarantee or witness, the signature should be acknowledged formally before a notary public, who must certify under his seal with date that the person signing is known to him to be the person named on the face of the certificate.

When stock is to be transferred to a customer's name, the broker sends the certificate to the corporation's transfer office and a new certificate is issued. This may take a week or even longer if the transfer office is out of town. Stock cannot be transferred while the corporation's books are "closed" for dividends or for any other reason.

A coupon bond, on the other hand, is payable to "bearer." Title to it is transferred by simple delivery.

Under the Personal Property Law of New York (Section 172) every seller of a negotiable instrument implies, in transferring the security to the buyer, that the instrument is genuine, that the seller is not aware of any defect in its validity, and that the seller is the legal owner with full power to sell.

Buy-in. In the event that the seller fails to make delivery within the designated time, the buyer has the right to a "buy-in." In this instance, the buyer's broker purchases a like quantity of the

security from another seller's broker on a cash basis and holds the original seller liable for any higher cost. In practice, however, resort to a "buy-in" is made only after repeated failures to obtain delivery.

Bond quotation. When a broker effects a sale in the bond market on the New York Stock Exchange, it is understood that the sale is for a coupon or bearer bond, unless the contract is made specifically for a registered bond. Separate quotations are made for the registered bond and for the coupon bond, as the one is not good delivery for the other. The registered bond usually sells at a slightly lower price than the coupon bond. For example, Northern Pacific 4s of 1997 sold on the same day at 74½ in coupon form and at 71 in registered form, and Central Railroad of New Jersey 5s of 1987 sold at 20⅞ in coupon form and at 19 in registered form. Similarly, approximately \$28,000,000 of the \$48,000,000 of West Shore Railroad 4s of 2361 outstanding are in registered form and because of their more restricted marketability have sold at an average three to four points below the price of the coupon bonds. The transfer of a registered bond involves some delay, formality, and expense. Since the basic price, therefore, is usually for the bearer bond, the price for a registered bond of the same issue is usually slightly lower than the current price for the bearer bond.

Margin buying. Securities may be purchased for cash or on margin.¹³ In a purchase for cash, a deposit of a substantial portion of the cost of the purchase must accompany the initial order unless the customer is known to the broker. A confirmation of the trade is mailed to the customer on the day the transaction is made showing the number of shares purchased, the price paid, the broker's commission, and the total amount due. Upon receipt of this confirmation the customer is required to pay the balance due when the stock is received on delivery date. When the security is paid for in full, it is transferred to the name of the buyer. The purchase of a security on margin is handled in much the same manner as a purchase for cash except that the broker advances a part of the cost price and holds the security as collateral for the amount due him.

Purpose. The trader who buys a stock on margin anticipates that the stock will rise in price and that he will make a profit repre-

¹³ In opening a cash or margin account, the customer is required to fill out a special form which includes, among other things, his authorized signature, occupation, business references, and citizenship. For a margin account a form of agreement is also required. See Appendix C for forms of agreement.

sented by the difference between the higher price at which he hopes to sell it and the lower price at which he bought it. In order to reduce his own investment in the stock, he buys the stock on margin, with an initial partial payment in cash, instead of on a cash basis, paying the full price in cash. He pays only part of the purchase price and borrows the rest from the broker. He takes a position in the stock with a partial investment on his part.

Regulation. The extent to which a trader may buy on margin is subject to the regulations of the Federal Reserve Board and the New York Stock Exchange. Although the margin requirement may be changed from time to time, the operation of a margin purchase will be illustrated in terms of the 75 per cent initial margin requirement effective January 17, 1951. Under this margin requirement the cash payment must be at least 75 per cent of the cost price. In lieu of cash, the trader may deposit eligible securities with the broker, but the amount lent by the broker may not exceed 25 per cent of the aggregate cost of the new purchase and the market value of the deposited securities. Margin purchases are also restricted by the rules of the New York Stock Exchange. Stocks selling at \$5 or under a share and bonds selling for less than \$5 for each \$100 of principal amount must be bought for cash and paid for in full. In addition, all margin accounts must have a minimum equity of \$500.¹⁴

Margin purchase. If 100 shares of a stock are purchased at \$50 a share on margin, the buyer must make a cash payment of 75 per cent of the cost price, plus commission, or must deposit securities of sufficient market value so that the amount lent by the broker does not exceed 25 per cent of the aggregate market value of the new purchase and the deposited securities. Ignoring commissions, for purposes of illustration, the buyer of 100 shares of a stock on margin at \$50 a share must make a minimum cash payment of \$3,750, and borrows \$1,250 from the broker.¹⁵ The buyer, with a cash investment of \$3,750, has taken a position in 100 shares of the stock with a market value of \$5,000. The broker's loan of \$1,250 is secured by the stock with a market value of \$5,000. The

¹⁴ The proceeds of sales of securities in accounts that are undermargined must be used to the extent necessary to increase the margin on the remaining securities in the account until the whole account is brought up to the margin requirement.

¹⁵ Brokerage houses require a minimum initial payment in cash or its equivalent in acceptable securities in order to open a margin account. The rights of the broker and the customer are governed by the margin agreement signed by the customer. This agreement includes, among other things, permission to hypothecate the customer's securities and to sell out the account for lack of sufficient margin.

cash payment by the buyer is known as his "equity," and the \$1,250 borrowed from the broker is called his "debit balance." The buyer's equity, therefore, is 300 per cent of the debit balance (\$3,750/\$1,250).

In order to complete the margin purchase for his customer, the broker must be prepared to pay for the stock by 12:00 P.M. of the fourth full business day following the date of purchase. The broker may finance the margin transaction with his own funds or he may borrow the day's requirements at his bank with a demand or time note. Such loans may be arranged through the call-loan market. Money borrowed on demand or through time loans is secured by the deposit of stocks or bonds.¹⁶ Call loans made in the New York money market are usually renewed daily at the rate for the day.¹⁷ Inasmuch as the debit balance constitutes a loan, the broker charges the customer interest at a rate that is higher than that paid by the broker and that begins to accrue on the day on which the stock is delivered. When later the customer orders the broker to sell the stock, the broker credits the customer with the net proceeds of the sale on the second day following the sale. Interest on the debit balance does not cease until the credit is entered on the books after the sale.

During the period when the stock is held on margin, the broker regularly collects all dividends that may be paid on the stock and credits those dividends to the customer's account as they are received.¹⁸ If, in accordance with the order of the customer, the stock is sold later on a date which is after the declaration of a dividend on the stock but prior to the ex-dividend date, the buying broker has the stock transferred to his name immediately upon receipt of the stock, in which case the dividend is paid by the corporation to the customer of the buying broker. On the other hand, if there is not time to effect the transfer before the ex-dividend date, the selling broker will give the buying broker a "due bill." A "due

¹⁶ In 1944, reporting member banks in New York City revised the method of reporting security loans to brokers and dealers. The former item "loans to brokers and dealers in securities" was broken down into two sections—loans on United States Government obligations and those on other securities, the bulk of which represents borrowings for stock market operations. Other loans for purchasing or carrying securities also were divided into two categories—United States Government obligations and other securities loans.

¹⁷ Since call-loan funds represent the residual loanable funds, the rate is influenced directly by changes in the demand for and supply of funds.

¹⁸ Dividends paid in stock are received into the account as so many additional shares. In the interim between the closing of the books and the payment, the amount of the dividend is counted as a part of the customer's margin.

bill" is a form of promissory note by which the seller, who still has the stock registered in his name when the corporate books close, promises to pay the current dividend to the buying broker, who has received the stock too late to have it transferred to his name. This "due bill" will appear on the books of the buying broker among the "due bills receivable."

Maintenance requirement. If, during the period when the stock is held on margin, the market price of the stock should decline, the maintenance margin is subject to the rules of the New York Stock Exchange. Under those rules the buyer is required to deposit additional margin (either cash or additional securities) when his equity falls below 25 per cent of the market price of the stock.¹⁹ In that case the buyer would be obliged to deposit additional margin when the market price of the stock purchased on margin reaches $16\frac{5}{8}$ a share as indicated by the following table:²⁰

| <i>Market Price per Share</i> | <i>Total</i> | <i>Equity</i> | <i>Debit Balance</i> | <i>Equity/Market Price (%)</i> |
|-----------------------------------|--------------|---------------|--------------------------|------------------------------------|
| \$50 | \$5,000 | \$3,750 | \$1,250 | 75.00 |
| 25 | 2,500 | 1,250 | 1,250 | 50.00 |
| 20 | 2,000 | 750 | 1,250 | 37.50 |
| $16\frac{3}{4}$ | 1,675 | 425 | 1,250 | 25.37 |
| $16\frac{5}{8}$ | 1,662.50 | 412.50 | 1,250 | 24.81 |

The broker demands additional funds or collateral to protect the margin account by sending a "margin call" to the customer. If the customer fails to provide the additional margin, the broker "sells out the margin account"; that is, he sells a sufficient amount of the stocks in a diversified account to bring the equity up to the minimum requirements and out of the proceeds of the sale collects his loan and other expenses and charges.

Short sale. A short sale is one in which the seller is "short" of the stock, that is, he is not prepared to deliver the stock on a sale the regular way. The short seller may be a speculator who does not own the stock but who, anticipating that the market price of the stock will decline, expects to make a profit by selling the stock short now and buying it back at a lower price later. If his anticipation is confirmed, he will secure a profit measured by the differ-

¹⁹ Individual brokerage firms may establish maintenance requirements that are higher but not lower than those prescribed by the Exchange.

²⁰ A formula for the determination of the market price at which the equity is 25 per cent of the market price is: debit balance/75 per cent. In the above case, application of the formula shows that with a debit balance of \$1,250 the equity would be 25 per cent of the market price when the market value declined to \$1,666.67 or $16\frac{2}{3}$ a share, and less than 25 per cent at a market value of \$1,662.50 or $16\frac{5}{8}$ a share.

ence between the price at which he now sells it and the price at which he may later buy it, less expenses involved in the transactions. For example, if the speculator sells short now at 55 and covers the short sale—later buys the stock in the market—at 50, he has made a profit of \$5 a share, less expenses. On the other hand, the short seller may actually own the stock but is either not prepared to make delivery the regular way or wishes to hedge against a decline in market price of the security.²¹

Restrictions. Two restrictions, however, are placed on a short sale by the Securities and Exchange Commission. The sale must be designated as a “short” sale when the order is placed, and it cannot be executed at a price below that established in the last preceding regular (as distinguished from short) sale. A short sale may be made at the level of the last transaction if the previous price change the regular way was upward. For example, if a stock sells 38 $\frac{7}{8}$ -39, a short sale may be made at 39. On the other hand, if the last price change has been downward, the short sale must be made above the last price. For instance, if the stock sells 39-38 $\frac{7}{8}$, the next short sale must be at 39.²² The purpose of these restrictions is to prevent “bear raiding”—that is, the use of short sales to depress the market price of the issue.²³

Borrowed stock. When a short sale is effected, the seller contracts, through his broker on the floor of the Exchange, with the broker of the buyer—who is not aware that he has purchased from a short seller—to deliver the stock to the buyer's broker by 12:00 P.M. of the fourth full business day following the sale. The short seller, now having sold the stock, must borrow the required stock in order to make delivery. His broker borrows the stock from another broker who has the required stock available for lending.²⁴ The

²¹ The latter is sometimes called “selling against the box.”

²² Short sales are governed by Rule X-10A-1 of the Securities and Exchange Commission under the Securities Exchange Act of 1934. The rule has operated to prevent short sales in certain cases not intended at the time of its adoption, namely, when price declines result from the fact that the security has gone ex-distribution. In May, 1943, the Commission revised the rule to provide that in determining the price at which a short sale may be made in a security that has gone ex-dividend, ex-right, or “ex” any other distribution, all sales prices for the security prior to the “ex” date may be reduced by the value of such distribution.

²³ Short selling is possible on falling prices as well as on rising prices. Whenever the market is active, a stock which is declining in price sells at higher prices on momentary rebounds, thus giving opportunity for the “shorts” to keep on the pressure.

²⁴ The stock which these brokers (“loan crowd”) have available for lending is stock which they own or stock of their customers who have consented to allow the stock to be used for this purpose. These brokers are at the loan post every day, lending and borrowing stocks from about 9:45 A.M. to 1:30 P.M., and again from 3:00 P.M. to 3:30 P.M.

borrowed stock is listed on the clearing sheet of the seller's broker as if the stock had been bought. The buyer's broker will receive delivery from the seller's broker before 12:00 P.M. of the fourth following full business day. So far as the buyer is concerned, the transaction is completed.

In the meantime, a special relationship has arisen between the seller and the lending broker. The lending broker receives from the seller the full market price of the stock in cash at the time of delivery of the stock. Both stock and cash are held on a basis similar to a call loan. The broker who has lent the stock can call for the return of his stock at any time on reasonable notice and upon returning the money he holds. Similarly, the broker who has borrowed the stock, on reasonable notice, can demand back his money on delivery of the borrowed stock. The broker who has lent the stock always holds the full market value of the stock in cash. If the market price of the stock rises, the broker who has borrowed the stock must deliver sufficient additional cash to the lending broker to equal the rise in price. If, on the other hand, the market price of the stock declines, the borrowing broker can demand that the lending broker return that part of the cash which he holds over and above the present market value of the stock.

Basis of loan of stock. As the short seller's broker must deposit the full cash value of the borrowed stock as security for the stock, the lending broker has the use of the cash during the period the stock is lent. The stock may be lent "and interest," "flat" or "at a premium." "And interest" means that the lending broker pays a small interest charge for the use of the cash. The rate of interest is quoted on an annual basis. "Flat" means that the lending broker is not required to pay for the use of the cash. "At a premium" means that the short seller pays the lending broker a premium for the use of the stock. The premium is quoted as a given number of dollars per day per 100 shares. For example, the following quotations prevailed at the close of the market on a trading day:

| | |
|---------------------------|-------------------------------|
| Eastman Kodak common..... | premium of \$2 per 100 shares |
| American Can common..... | premium of \$1 per 100 shares |
| Union Carbide common..... | premium of \$1 per 100 shares |
| All others..... | flat |

Since the borrowed stock has been delivered to the buyer, who has had it recorded in his name or whose broker has had the stock put in his name, all dividends and rights will go to the buyer or his

broker (for the benefit of the buyer). The delivered stock, however, was borrowed from the lending broker, who really is entitled to all dividends declared and rights issued during the time the stock is borrowed. The short seller's broker, therefore, pays to the lending broker all cash and stock dividends declared and all rights issued during the period the stock is borrowed and, at the same time, charges the short seller's account for the amount of the cash dividend and the value of the stock dividend and rights.

Covering short sale. The short seller "covers" his short sale later by buying on the market an equivalent number of shares of the stock he had previously sold short. The stock thus purchased is returned to the lending broker, who returns to the short seller's broker the cash he then holds for the stock. If the short seller covers his short sale at a price substantially lower than the price at which the short sale was made, he makes a profit measured by the difference between the two prices, less the expenses. On the other hand, if the short sale is covered at a price higher than the short sale, he suffers a loss measured by the difference between the two prices, plus expenses.

Stop order. A stop order is an order to sell a security "at the market when the market price falls to or below a price specified by the seller, or to buy "at the market" when it has risen to or above a price specified by the buyer. It is used as a safeguard against too great and too sudden a change in the market price. The purpose of a stop order is not to eliminate loss but rather to limit it should the changing market price go against the trader.

Uses. The stop order may be used either to limit the loss or to protect the profit on a security held, or to limit the loss on a short sale. For example, a trader who purchased stock at 65 and who wishes to limit his possible loss to approximately \$5 a share places an order to "sell 100 shares of X common at 60 stop." In this case the purpose of the stop order is to limit the loss to approximately \$5 a share. A trader who holds a stock quoted at 80, which he purchased at 70, but which he is not ready to sell, may insure the retention of part of the profit in the event of a decline in price by placing a stop order at 75. Should the market price decline to 75, the stop order becomes a market order and the trader obtains a profit of approximately \$5 a share. On the other hand, a trader who has sold 100 shares short at 50 may place a stop order to buy at 55, thus limiting his loss to approximately \$5 a share in covering the short sale.

Execution. The order to "sell at 60 stop," given by the trader referred to above who bought at 65, is not an order to sell at 60 but rather an order to sell if and when the price declines to 60. When the market price reaches 60, the stop order becomes effective as a market order, which means in most cases that the stock is sold at less than 60.²⁵ On the other hand, the order to "buy at 55 stop," given by the trader referred to above who sold short at 50, is not an order to buy at 55 but rather to buy if and when the price rises to 55. When there is a sale at 55, the stop order becomes a market order and may result in the stock being bought at more than 55. An odd-lot stop order is executed in similar fashion but at a differential of $\frac{1}{8}$ of a point for stocks selling below 40 and of $\frac{1}{4}$ of a point for stocks selling at 40 or above.

Technical position of market. From the standpoint of the market, an accumulation of stop orders just under current prices makes the market "technically weak." Under such conditions, a limited amount of selling sets off a wave of stop orders; each decline in price makes successively lower stop orders effective, and brings additional stop orders into the status of market orders.

Specialists. A specialist in a stock is a broker who specializes in transactions in that stock on the floor of the exchange. He remains constantly at that post and acts both as a broker and as a principal in handling orders. As a broker he executes orders for other brokers on a commission basis; as a principal he buys and sells for his own account. If a commission broker receives an order to buy, say, General Electric common stock, at the market, he approaches the specialist in that stock, who either fills the order from stock for which he has sell orders or, if he has none, sells the stock short for his own account, expecting to acquire the stock at a slightly lower price in time to make delivery the regular way. On the other hand, if a commission broker receives an order to sell the stock, the specialist buys it either to fill an order he has on his book or, if he has none, for his own account.

Book. The specialist maintains a "book" in the stock in which he enters all orders received from other brokers to buy and to sell the stock at prices which are "away" from the prevailing market price. Those orders are entered as they are received. A sample page from the book of a specialist showing the unfilled orders would appear as follows:

²⁵ Open sell stop orders are automatically reduced by the amount of the dividend on the day a stock sells ex-dividend.

GENERAL ELECTRIC COMMON

| <i>Buying Orders</i> | <i>Last Sale</i> | <i>Selling Orders</i> |
|----------------------|------------------|-----------------------|
| 100 at 40 | | |
| 100 at 41 | | |
| 200 at 41½ | | |
| 100 at 42 | | |
| 200 at 42½ | | |
| 100 at 43 | | |
| | 43½ | 100 at 43½ |
| | | 200 at 44 |
| | | 500 at 44½ |
| | | 300 at 45 |
| | | 200 at 46 |

The page shows the volume of orders in the stock at prices between 40 and 46; other orders, which are not shown in the illustration, are held below 40 and above 46. Within the range shown in the illustration, the highest bid is for 100 shares at 43; the lowest offer is 100 shares at 43½. The quotation, therefore, is 43-43½. An order to buy 300 shares at the market would be executed as 100 at 43½ and 200 at 44. On the other hand, an order to sell 300 shares at the market would be executed as 100 at 43 and 200 at 42½.

Function. The significance of the function of the specialist lies in providing a convenient point of concentration for orders which could not otherwise be handled expeditiously by the regular brokers. His willingness to buy and sell stock for his own account tends to narrow the spread between bid and asked prices. Some risk is involved, but risk-taking is part of his function. From a practical standpoint, however, his intimate knowledge of potential buying and selling orders involves little risk in buying stock at prices only slightly above that on actual buying orders on his book or in selling stock at prices only slightly lower than that on actual selling orders on his book.²⁶

²⁶ The operations of specialists on the New York Stock Exchange are supervised by the Committee on Floor Procedure. In November, 1938, the committee classified specialists into four groups: regular, relief, associate, and temporary. Since January 1, 1939, all specialists, except temporary, must be registered with the committee, and temporary specialists must be authorized by the committee. A regular and a relief specialist are expected, in so far as practicable, to maintain a fair and orderly market, which implies the maintenance of price continuity and the minimizing of the effects of temporary disparity between supply and demand. An associate specialist assists a regular or a relief specialist in the execution of orders. He is not responsible for the maintenance of stabilization of the market by purchases or sales for his own account and is prohibited from handling the book or making any bid or offer except in the presence of the regular or the relief specialist. A temporary specialist can be approved by any member of the committee to function in an emergency when no regular specialist is present or the volume of transactions is too great for the regular or relief specialist to handle. While functioning as a temporary specialist, a member is under the same obligation as a regular specialist.

Options.²⁷ An option is a negotiable contract that involves the right to buy or to sell 100 shares of a stock at a specified price and within a stated time.²⁸ Options in the securities market are based upon the same principle as options to buy real estate. An option to buy a piece of real property is a contract under which the owner of the land, for a consideration, gives to the potential buyer the right to buy or to refuse to buy the property by a certain future date at a specified price. At the time of the granting of the option, no transfer of the property takes place. If, on or before the expiration date of the option, the buyer exercises the option, the property has cost him the price agreed upon for the property and the cost of the option. If, on the other hand, he does not exercise the option, the only expense to him has been the cost of the option. In the meantime, however, he has enjoyed the exclusive privilege of buying the property at a specific price.

Market. Traders in securities use the same process to limit losses and to insure profits by the purchase of options, called "puts" and "calls." Inasmuch as members of the New York Stock Exchange are not permitted to trade in options on the floor of the Exchange, the market in options is conducted outside the Exchange by brokers and dealers who specialize in options. They are members of the Put and Call Brokers' and Dealers' Association, Inc., and are registered with the Securities and Exchange Commission. Option contracts secured through the members of the Association are guaranteed or endorsed by members of the New York Stock Exchange or their firms. By express agreement with the buyer, however, options may be guaranteed by members of other exchanges or their firms.

Put. A "put" is a contract under which the purchaser or holder has the right at his option to sell (deliver) to the maker a specific number of shares of a designated stock (usually 100) at a stated price within a specified time (usually 30 days). The 30-day option usually expires at 2:45 on the thirtieth day. Options may be for 30 days or 90 days or "specials." A rule of the Put and Call Brokers' and Dealers' Association prohibits options for a period of less than 21 days.

The "stated price" for a "put" may be either "at the market" or "below the market." For example, 30-day "puts" on United States Steel common were "at the market" on the same day that

²⁷ See Appendix D for contract forms, page 512.

²⁸ Though the unit of trading is 100 shares, it is possible to deal occasionally in 50-share lots.

30-day "puts" on Bethlehem Steel common were "one point below the market." "Below the market" spreads may vary according to the stock. For instance, 30-day "puts" were quoted at $\frac{1}{4}$ below for Standard Oil Company of New Jersey common, $\frac{1}{2}$ below for United States Steel common, and $1\frac{1}{2}$ below for Bethlehem Steel common on the same day. The "put" for United States Steel common "at the market" meant that the buyer of the "put" had the right to deliver²⁹ to the seller of the "put" at any time within 30 days from the date of the "put" and on one day's notice (except the last day, when notice is not required) 100 shares of United States Steel common stock for which the seller of the option would have paid the market price prevailing on the date of the option.³⁰ On the other hand, the "put" for Bethlehem Steel common "at one point below the market" meant that, upon exercise of the "put" by the buyer, the price of the stock to the seller would be one point below the market price prevailing on the date of the option.

A trader holding 100 shares of a stock selling at \$40 a share who fears that the price may decline substantially because of an impending development but who otherwise desires to keep his stock may purchase a "put" with the price "at the market." If then the market price declines to 35, the buyer of the "put" may exercise it by delivering the stock to the seller of the option, who pays the buyer of the option \$40 a share for the stock. In this way the trader has limited his loss to the cost of the option.

Call. A "call" is a contract under which the purchaser or holder has the right to buy the stock from the maker at a stated price within a specified time. The "stated price" for a "call" may be "at the market" or "above the market." For example, 30-day "calls" on Youngstown Steel common were "at the market" on the same day that similar "calls" on Bethlehem Steel common were at " $\frac{3}{4}$ of a point above the market." "Above the market" spreads may vary according to the stock. For instance, 30-day "calls" were quoted at "1 above" for United States Steel common and " $1\frac{1}{2}$ above" for Bethlehem Steel common on the same day. The "call" for Youngstown Steel common "at the market" meant that the

²⁹ The contract must be presented to the cashier of the firm by whom it is endorsed before the expiration of the exact time limit. It is not acceptable after it has expired and cannot be exercised by telephone; delivery must be made according to New York Stock Exchange usage.

³⁰ All dividends for which the transfer books close during the period go with the stock. In the exercise of a "put" the owner is required to pay, and of a "call" the holder is entitled to receive, any dividends, rights and bonuses on shares quoted "ex" during the life of the option.

buyer of the "call" had the right to call upon the seller of the "call" at any time within 30 days from the date of the "call" and on one day's notice (except the last day when notice is not required) to deliver to the buyer 100 shares of Youngstown Steel common for which the buyer would pay the seller the market price prevailing on the date of the option. On the other hand, the "call" for Bethlehem Steel common "at $\frac{3}{4}$ of a point above the market" meant that upon exercise of the "call" by the buyer, the price of the stock to the buyer would be $\frac{3}{4}$ of a point above the market price on the date of the option.

A trader, considering the purchase of 100 shares of a certain stock selling at \$40 a share, who feels that the time is inopportune but who fears that the price might rise suddenly while he is waiting, may purchase a call "at the market." If then the market price of the stock rises to \$45 a share, the buyer may exercise the "call" by calling upon the seller to deliver the stock to the buyer, who pays the seller \$40 a share for the stock.³¹

Function. The chief economic function of options is to provide a means of reducing the risk of loss. The holder of an option knows in advance the exact extent of his possible loss regardless of fluctuations in the market price of the stock. In the event the market moves contrary to the expectations of the owner of stock protected by a "put" the loss is definitely limited to the amount of premium paid for the option plus the difference between the price of the stock prevailing at the time the option was bought and the price specified in the option contract. If, on the other hand, the market advances and the price of the stock on the expiration date is higher than the "put" price, the holder can permit the option to lapse and sell his stock if he desires. Obviously the profit is reduced by the cost of the option. The "call" insures the trader against loss in the case of the sale of stock protected by a "call." If the stock declines, he can re-buy the stock profitably.

Price. Options are written by option dealers, who set the price that the buyer must pay for the option. The price of the option is influenced by the length of the option and by market conditions. Options "at the market" (price prevailing at the time the option is purchased) are much dearer than those where the option price (price named in the contract) is a number of points away from

³¹ The state of New York and the federal government require that stock transfer stamps be attached to "call" contracts but not to "puts." The buyer of the "call" pays this tax, which is the same as the tax paid when selling shares of stock. The maximum is \$10 per 100 shares and decreases according to the price and par value.

the current market price. The latter sell at a fixed premium of \$137.50 per 100 shares. In an active bull market, "calls" are dearer than "puts" and may be difficult to obtain, whereas in times of sharp decline, "puts" are dearer than "calls" and may also be difficult to purchase. In dull markets both "puts" and "calls" are low in price. Options on stocks where the fluctuations are small can be bought more reasonably than on those which move erratically and where the daily spread can and does amount to many points. Options for a longer period of time are considerably more expensive than those that run for a shorter period of time. There is usually a differential between the price of a "put" and the price of a "call" on the same bond or stock. For example, 90-day "puts" on United States Steel common were quoted at \$250 (100-share option) at the same time that "calls" on the same stock were quoted at \$325 (100-share option). Similarly, every bond or stock has a separate quotation.

Straddle and spread. A straddle and a spread each represent the simultaneous purchase of a "put" and a "call." The buyer has the right to buy and/or to sell the stock within a specified period of time. The buyer will exercise the "call" if the market price of the stock on the due date is higher than the option price, and he will exercise the "put" if the market price of the stock is below the option price. For example, assume that a trader buys 100 shares of a stock on the New York Stock Exchange at 65 and at the same time buys a straddle on 100 shares of the stock at 65. The straddle gives him a "call" on the stock at 65 and a "put" on the stock at 65. The cost of a straddle is somewhat less than the combined cost of a "call" and a "put" at the market if bought separately. If, at the expiration date of the straddle, the stock is selling on the New York Stock Exchange at 75, he will sell 200 shares of the stock on the Exchange and exercise the "call" side of the straddle. The 200 shares, which he delivers as a result of his sale at 75, consists of 100 shares bought on the Exchange at 65 and 100 shares received under the "call" at 65. If, on the other hand, the stock is selling at 60 at the expiration date of the straddle, he will exercise the "put" side of the straddle and deliver to the seller of the straddle 100 shares at 65. The 100 shares delivered are the 100 shares he had previously bought on the Exchange at 65.

The two forms of option differ, however, in that the straddle permits both the "put" and the "call" to be exercised at the same price (the actual market price), whereas the spread specifies one

price for the "call" and a different price for the "put," with a "spread" between the two prices.

Accumulation and distribution. In a restricted market, with limited buying and selling orders in the hands of brokers, any attempt to execute a large order immediately would have an unfavorable effect upon the prevailing price. In order, therefore, to acquire a large number of shares of a particular stock at a more favorable price, the trader employs a procedure known as "accumulation," under which the desired quantity is acquired by gradual purchase. In like manner, a trader who wishes to dispose of a large number of shares of a stock at a more favorable price follows the practice called "distribution" under which the stock is disposed of by gradual sale.

Arbitrage. Arbitrage is the simultaneous purchase and sale of securities to take advantage of a discrepancy in prices. It may be conducted in the same security in two different markets or in equivalent securities in the same market. An arbitrage operation in the same security in two different markets is possible where, for example, a stock is selling at a higher price in the London market than in the New York market. A profit is possible by a simultaneous sale of the stock in London and purchase in New York. In September, 1938, the threat of another World War arising out of the Sudetenland controversy between Germany and Czechoslovakia provided a situation favorable to this type of arbitrage. On the theory that American markets were more upset over conditions in Europe than foreign markets, some traders sold large blocks of stock in the London market on September 15, 1938, before the opening of the market in New York and covered in the New York market later the same day.

An arbitrage operation in two securities in the same market may arise (a) between a stock and the "rights" which have been declared on the stock; (b) between a bond and the stock into which it is convertible; or (c) between the old and the new securities in a reorganization.³² In one instance, financing by American Telephone & Telegraph Company resulted in the establishment of a market on a "when issued" basis for dealings in "rights" and \$234,000,000 of convertible debenture 3s. Although prices for

³² The short position of 39,329 shares of General Motors common stock and of 41,298 shares of Pepsi-Cola in June, 1944, was believed to be partly on arbitrage dealings in connection with the acquisition of Yellow Truck by the former and of Phoenix Securities by the latter.

both the "rights" and the debentures were closely geared to each other, there were opportunities for narrow profits if the "right" could be bought on the bid side and the debentures sold on the offer side. The "rights" were: bid, $1\frac{5}{32}$; asked, $1\frac{6}{32}$. Under the terms of the offering, the stockholder could buy a \$1,000 debenture at par for every 80 shares of stock. At the bid price of $1\frac{5}{32}$, the cost of 80 "rights" was \$117.50, which, when added to the \$1,000 purchase price of the debenture, made a total cost of \$1,117.50. The market price of the debentures at the same time was bid: $111\frac{3}{4}$; asked: 112. To make a profit, the trader would have had to sell the debenture at the asked price of 112, or \$1,120 less 50 cents federal transfer tax, a net sale price of \$1,119.50. The difference represented a profit of \$2 ($\$1,119.50 - \$1,117.50$).

Quasi-arbitrage. In some instances traders have been attracted to the quasi-arbitrage possibilities in railroad reorganization bonds arising out of the fact that there were substantial differences in the market price of the old bonds and of the securities that were to be issued under reorganization plans in exchange for the old bonds. The issuance of the new securities, however, was contingent upon the successful consummation of the reorganization plans. A quasi-arbitrage differs from a true arbitrage in that a trader in a reorganization plan buys the old security but sells the "when, as, and if issued" equivalent. Should material changes occur in the plan of reorganization, the "when, as, and if issued" contract becomes void, leaving the trader "long" of the purchased bonds. The current good earnings and favored tax position of the railroads, however, had developed a more favorable attitude toward railroad bonds, so that traders were less disturbed than formerly by the possibility of being left "long" of purchased bonds.³³

Function. Arbitrage operations tend to maintain prices on an equivalent basis. With so many expert traders watching the situation, there is little opportunity for prices to get out of line for any considerable period.

Special offering. Under a special offering, members and member firms offer through the facilities of the New York Stock Exchange

³³ A factor which complicated the computation of possible profits was the dual problem of interest payment on existing bonds and interest accruals on "when issued" bonds. Fixed interest accruing up to the delivery date on the new bonds belongs to the seller and all contingent interest to the purchaser. Certain current payments had been specified to be on account of fixed interest accruals while other payments by the same railroad had not been designated.

a block of stock that cannot otherwise be absorbed on the floor within a reasonable time and at reasonable prices.³⁴ Provision for special offerings also prevail on the San Francisco, Philadelphia-Baltimore, Detroit, Midwest, Los Angeles, Boston and Cincinnati Stock Exchanges and on the American Stock Exchange.

Procedure. Security owner A, with a large block of stock which he desires to sell, approaches Exchange member X and offers to sell the stock at 40, the latest market price, with a special commission of $\frac{1}{2}$ point to any broker who acts as an agent for a buyer. If the Exchange member X is interested, he applies to the Stock Exchange for permission to make a special offering. No special offering may be made unless the Exchange decides that the shares could not be disposed of in a reasonable time interval through the ordinary auction method without a possible unwarranted or unreasonable disturbance of the price level. Except in special circumstances, the Exchange has not permitted a special offering unless the offering involves at least 1,000 shares of stock or shares having an aggregate market value of \$25,000, whichever is greater.³⁵ In determining whether the privilege of making a special offering shall be granted, the Exchange takes into consideration the daily price range and the volume of transactions in the stock on the floor of the Exchange during the preceding six months; attempts which have been made to dispose of the stock in the regular market on the floor; existing conditions of the specialist's book in the stock; the past and current interest in the stock on the floor; and the number of shares and current market value of the block proposed to be covered by the special offering. The rules of the Exchange require that the offerer must be the owner of the entire block of stock offered and prohibit both piecemeal or successive offerings of the same security by the same offerer and offerings on an "all or none" basis.

Upon approval by the Exchange and at the hour stipulated for the sale, the special offering is printed on the tape showing the gross price and special commissions in a legend such as "SP OFF 10000 XYZ 40 COM $\frac{1}{2}$," and orders for the stock are received on the floor

³⁴ Under Rule X-10B-2, the Securities and Exchange Commission prohibited any person participating in the distribution of a security issue from paying another person to solicit purchases of the securities on an exchange in order to facilitate their distribution. The Commission revised its rule, however, in February, 1942, to permit special offerings.

³⁵ In 1944 the special offerings plan was made applicable to blocks of bonds provided they are not less than \$15,000 principal amount with an aggregate market value of \$10,000. The special commission may not exceed $2\frac{1}{2}$ per cent of the selling price.

of the Exchange. Only members and member firms may receive the special commission. An uncompleted offering, however, may not be terminated without the approval of the Exchange. In many cases the offering has been completed in less than fifteen minutes. One special offering of 28,700 shares of General Electric common was completed in four minutes.

Commission. The commission of one half of a point mentioned in the announcement is paid by the seller to the buying brokers for soliciting purchases. In this instance the buying brokers would pay 40 for the stock for the account of their principals and, instead of receiving a commission from the buyer, would be paid $\frac{1}{2}$ point per share as commission by the firm making the offering. The seller would receive 40 for his stock but must pay the $\frac{1}{2}$ point commission to the buying broker, a commission to his selling broker, and the federal and state transfer taxes. The gross cost to the seller in commissions must not be less than double the regular commission, but may be more. The broker who handles the transaction initially for the client must obtain at least the minimum clearance commission, and the balance may be paid to the brokers obtaining the buying orders.

Oversubscription. In handling oversubscriptions, it is the policy of the Exchange to hold the books open for fifteen minutes so that all members may have an opportunity to submit bids.³⁶ At the end of this period, the books are closed and allotments made on a percentage basis of total orders received. For example, 10,000 shares of National Distillers Products Corporation common were offered at $25\frac{1}{4}$ a share, with 50 cents commission. As total bids aggregated 15,895 shares, allotments were made at the rate of 62.9 per cent. A total of fifty-nine purchases were made through thirty-three member firms during the fifteen minutes the offering was held open. The largest allotment was 1,130 shares and the smallest was 15 shares.

Function. It is not the purpose of a special offering to supersede the auction market. A special offering priced between 8 and 50 is suspended when the regular-way offer is at least $\frac{1}{4}$ below it. The differential must be at least $\frac{3}{8}$ in the instance of special offerings priced at over 50. A special offering in a particular issue may be in

³⁶ As a result of an amendment in 1944, an exception from this minimum requirement is given to any offering that has been announced on the ticker tape at least one hour before the offering becomes effective. An offering so exempt may not be closed without the approval of the Exchange.

progress on the Stock Exchange floor at the same time that regular trading is being conducted in the issue.

Another Exchange Rule provides that a broker with a special offering order must buy any regular-way stock available if he can do so at a saving to the customer. The rule specifically provides that "every order for a purchase in a special offering shall be accepted pursuant to this condition."

Secondary distribution. A secondary distribution is the sale outside the Exchange, generally after regular trading hours, of a block of listed stocks or bonds too large for immediate sale on the Exchange. Large blocks of unlisted securities are also distributed by the same method. Secondary distributions consist primarily of sales that were made on behalf of estates and other large domestic holders. One large secondary distribution consisted of 704,121 shares of Chesapeake & Ohio Railway common stock marketed for Alleghany Corporation. Blyth & Co., Inc., formed a syndicate of more than eighty investment firms throughout the country to offer the stock directly to investors or through dealers. John D. Rockefeller distributed through Dillon, Read & Co. and associated investment banking firms stocks in the four leading Standard Oil companies having a total market value in excess of \$23,000,000. A secondary distribution is not necessarily limited to a block of stock but may also be a block of bonds.

Participation. A secondary distribution does not have to be cleared with the Exchange, since the participants are over-the-counter dealers. Participation is open, however, to Exchange member firms. In order for members of the New York Stock Exchange to participate in the secondary distribution of a security listed on the Exchange, the approval of the Exchange must be obtained. The member firm must request permission of the Exchange by 2:30 P.M., one-half hour before the close of the Exchange. The New York Stock Exchange, however, has not approved all applications to permit member firms to participate in a secondary distribution.

Position of dealer. A house that undertakes to make a secondary distribution may act as a principal, as a broker, or as a combined principal-broker. When acting as a principal, the house buys the block of securities outright from the seller at an agreed price. When a house acts as a broker, it agrees with the seller to sell the securities on a commission basis. Sometimes a house acts as a com-

bined principal-broker, agreeing to buy part of the offering outright as a principal and to find buyers for the balance of the offering as a broker.

Offering price. The offering price to the public usually is at a fixed price, less a concession to dealers. Usually the price at which the securities are offered is that of the latest transaction on the Exchange, if the issue is listed, or at the current offering price in the over-the-counter market if the issue is traded exclusively over-the-counter. In the Chesapeake & Ohio Railway distribution, the offering price was $46\frac{3}{4}$, with a dealers' discount of ninety cents a share. Similarly, an issue of Georgia Southern & Florida Railroad first mortgage 5s were offered at 95 and accrued interest, with a discount to dealers of one point. The concession must be attractive enough to induce the dealer to participate in the distribution. The profit of ninety cents a share in the Chesapeake & Ohio Railway distribution compared favorably with the usual brokerage commission of thirty-one cents.

Significance. The seller of the stock obviously obtains a lower net price for his stock than the closing level on the Exchange or over-the-counter, because the concession which the dealer receives is deducted from the price. On the other hand, the seller is able to dispose of a block of securities that could not otherwise be sold through the Exchange or over-the-counter except at a substantial sacrifice in price or over a protracted period.

Investors are attracted by a secondary distribution because (a) they save a commission charge; (b) they obtain the security at an assured price; and (c) they are offered a security not otherwise readily available. A secondary distribution of 50,000 shares of Liggett & Myers B stock was made at a net price to the public of $80\frac{1}{2}$. The buyer of 100 shares at this price through the secondary distribution saved \$32.63 in New York Stock Exchange commissions.

Review Questions

1. What is the established unit of trading on the New York Stock Exchange for bonds and for stocks?
2. On the basis of the following data explain the newspaper statement that the preferred stock rose 23 points while the common stock declined 5 points.

| | <i>Sales</i> | <i>Open</i> | <i>High</i> | <i>Low</i> | <i>Close</i> | <i>Change</i> |
|------|--------------|------------------|------------------|-----------------|-------------------|-------------------|
| Pfd. | 62,000 | 152 | 175 | 152 | 163 $\frac{1}{2}$ | +11 $\frac{1}{2}$ |
| Com. | 17,500 | 13 $\frac{1}{2}$ | 13 $\frac{1}{2}$ | 8 $\frac{1}{2}$ | 9 | -4 $\frac{1}{2}$ |

3. Would an order to buy 700 shares of a stock necessarily be filled at one price?

4. Comment on the following report of trading in a common stock:

| <i>Sales</i> | <i>Open</i> | <i>High</i> | <i>Low</i> | <i>Close</i> | <i>Change</i> |
|--------------|-------------------|-------------|-------------------|--------------|------------------|
| 400 | 228 $\frac{1}{8}$ | 234 | 228 $\frac{1}{8}$ | 234 | +9 $\frac{1}{2}$ |

5. Comment on the following transactions on successive trading days in New York & Harlem Railroad common stock:

| | <i>Sales</i> | <i>Open</i> | <i>High</i> | <i>Low</i> | <i>Close</i> | <i>Change</i> |
|--------|--------------|-------------|-------------|------------|--------------|-------------------|
| Friday | 20 | 325 | 325 | 325 | 325 | -45 $\frac{1}{2}$ |
| Monday | 10 | 340 | 340 | 340 | 340 | +15 |

6. Indicate the relation between cash buying and the "thinness" of the market.

7. Explain the meaning of one order to buy 100 shares of Commercial Solvents common "at the market" and another order to buy 100 shares of Cudahy Packing common "at '45." Explain the meaning if they were "sell" orders.

8. Distinguish between a "day" order and an "open" order.

9. Explain the meaning of an order to buy 100 shares of General Motors common at 65 which is marked "G.T.C."

10. Define an odd-lot order.

11. Discuss the function of the odd-lot broker.

12. Explain the odd-lot differential.

13. Indicate the price at which an order to "buy 50 shares of J. C. Penney common at 52" would be filled. At what price would it be filled if it were a "sell" order?

14. Is the odd-lot differential in lieu of or in addition to the brokerage commission?

15. Discuss the significance of odd-lot trading to the small investor.

16. Indicate the respective delivery dates on a sale of 100 shares of common stock on Thursday, March 14, if designated (a) cash sale, (b) regular way sale, and (c) "seller 7 days" sale.

17. How is title passed in the sale of bonds and of stocks?

18. Name three implied guarantees in the transfer of a negotiable instrument.

19. Account for the differential in the following bond prices:

| | <i>Sales</i> | <i>High</i> | <i>Low</i> | <i>Last</i> |
|------------------------------|--------------|------------------|------------------|------------------|
| West Shore 4s, 2361..... | \$17,000 | 92 $\frac{1}{4}$ | 91 $\frac{3}{8}$ | 92 $\frac{1}{4}$ |
| West Shore 4s, 2361 reg..... | \$12,000 | 89 $\frac{3}{8}$ | 88 $\frac{1}{2}$ | 89 $\frac{3}{8}$ |

20. In an order to buy 100 shares of a common stock at 65 on margin, indicate (a) the significance of the transaction, (b) the initial margin requirement, (c) the maintenance requirement, and (d) the meaning of a "margin call."

21. In an order to sell "short" 100 shares of a common stock at 67, indicate (a) the significance of the transaction, (b) the method of delivery of the stock, (c) the distinction between the stock lending "and interest," "flat," and "at a premium," and (d) the meaning of "covering the short sale."

22. What is borrowed in a margin transaction and in a short sale?

23. What change in the market price of a stock favors the margin buyer and the short seller respectively?

24. Explain the meaning of each of the following orders: (a) "sell 100 shares of Maytag common at 18 stop" given when the stock is selling at 20 by a trader

who had bought the stock at 12; (b) "sell 100 shares of Spiegel common at 20 stop" given by a trader who had bought the stock at 23; (c) "buy 100 shares of Dow Chemical at 165 stop" given by a trader who had sold "short" at 160.

25. What is meant by a "specialist"?

26. May a specialist act as both broker and dealer in the same transaction?

27. Does a customer pay an additional fee when his broker executes his order through a specialist?

28. Explain the meaning of the announcement that a dealer offered the following 90-day options at the market per 100 shares:

Baltimore & Ohio, puts \$150 and calls \$187.50

General Electric, puts \$225 and calls \$250

with the stocks selling at $12\frac{1}{2}$ and 37, respectively.

29. Indicate the factors that influence the price of options.

30. Explain the following report of transactions in Standard Oil Company of New Jersey common:

| | <i>Sales</i> | <i>Open</i> | <i>High</i> | <i>Low</i> | <i>Close</i> |
|------------------------|--------------|-----------------|-----------------|-----------------|-----------------|
| SONJ | 100 | 65 | 65 | 65 | 65 |
| do special offer | 6800 | $64\frac{3}{4}$ | $64\frac{3}{4}$ | $64\frac{1}{2}$ | $64\frac{3}{4}$ |

31. Explain the announcement that Blyth & Co., Inc., made a secondary distribution of 60,000 shares of Climax Molybdenum common stock at an offering price of $37\frac{1}{4}$ a share, with a concession of 75 cents a share to N.A.S.D. members.

32. Discuss the advantages of a secondary distribution to the seller and to the buyers.

33. Under what conditions may Exchange member firms participate in a secondary distribution?

34. Discuss the importance of Exchange member firms to a successful secondary distribution.

Assignment

- Indicate the day of delivery of a stock sold "regular way" on Wednesday, May 3; on Friday, May 5; on Monday, June 6; and on Tuesday, July 2.
- A broker received an order to buy 60 shares of Continental Can common at 28. Indicate the nature of the order (round or odd-lot, market or limit, day or open) and the round-lot market price at which the order would be filled.
- Indicate the initial margin required under the present requirements of the Reserve Board Regulation T, on a purchase of 100 shares of Sun Oil Company common at $41\frac{1}{2}$. Below what price would the stock have to decline before additional margin would be required?
- Explain the following quotation from *The Wall Street Journal*: "There was a small demand for stocks in the loan crowd on the New York Stock Exchange, Monday, May 22. Clearing House stocks loaning at a 'premium' or 'and interest' were Eastman Kodak common, J. C. Penney common, and Westinghouse Electric common, each at a premium of \$1 per 100 shares. All other Clearing House stocks were flat."
- Broker A sells 60,000 shares of common stock for Mr. Smith through a special offering on the New York Stock Exchange at \$35 a share with 60 cents commission. Broker B buys 400 shares for Mr. Jones, a client. Indicate (without computation) the amount paid by Mr. Smith to Broker A;

- the amount paid by Mr. Jones to Broker B; the net proceeds to Mr. Smith; the profit to Broker B.
- (f) A special offering of 18,000 shares of common stock is made at 48 with $\frac{5}{8}$ of a point commission. Total bids aggregating 21,680 shares are received. Determine the rate of allotment.

CHAPTER SIX

INVESTMENT MATHEMATICS

Market price of bonds. The market price of a bond is quoted in terms of a percentage of principal amount. A price of 84 on a bond means 84 per cent of the principal amount (\$1,000) or \$840. Corporate bond prices are quoted in terms of eighths of a point. A quotation of $92\frac{1}{8}$ means a price of \$921.25 ($92\frac{1}{8}$ per cent of \$1,000). United States Treasury bonds are quoted in terms of thirty-seconds of a point. A quotation of 110.17 on a United States Treasury bond means \$1,105.31 ($110\frac{17}{32}$ per cent of \$1,000). Serial bonds are frequently quoted on the basis of the rate of income return instead of the percentage of the principal amount. For example, a quotation of 2.75 bid and 2.50 asked means that buyers are offering to pay a price that would afford a rate of income return of $2\frac{3}{4}$ per cent annually, whereas sellers are offering to sell at a price that would afford a rate of income return of $2\frac{1}{2}$ per cent annually.

Discount and premium bonds. Bond prices are referred to as "at a discount" or as "at a premium." A bond quoted at $92\frac{1}{2}$ is selling "at a discount" in that it is selling below its principal amount (\$1,000). The discount is measured as the difference between the principal amount (\$1,000) and the market price (\$925), or, in this instance, \$75. On the other hand, a bond quoted at $105\frac{3}{8}$ is selling "at a premium" in that it is selling above its principal amount (\$1,000). The premium is measured as the difference between the market price (\$1,053.75) and the principal amount (\$1,000), or, in this instance, \$53.75.

"And interest" basis. Bonds are quoted on an "and interest" basis; that is, the buyer pays to the seller both the price agreed upon and accrued interest. If the interest on a bond is paid January 1 and July 1 and the bond is bought on May 15, interest has

accrued since January 1, when the last interest payment was made. The buyer will receive the next semi-annual interest payment on the succeeding July 1. His capital, however, will have been invested only since May 19, the date on which he paid for the bond; hence he is not entitled to interest for the entire six-months period. On the other hand, the seller has had his capital invested in the bond up to the time of delivery and hence is entitled to interest for that period. The issuer of the bond, however, is not interested in, nor, as a practical matter can it take cognizance of, the relative periods of investment by the buyer and the seller. The issuer will pay the interest on July 1 either to the person in whose name the bond is registered, if it is a registered bond, or to the person presenting the appropriate coupon if it is a coupon bond. In either case, the person involved is the buyer. The buyer, instead of waiting until July 1 to reimburse the seller for the latter's share of the interest, pays the seller the accrued interest at the time of delivery and is himself reimbursed at the next interest payment date. In the event that interest is not paid at the next interest payment date, however, the buyer may not recover from the seller the accrued interest paid to the seller at the time of purchase, but must endeavor to collect from the issuer of the bond.

The interest to which the seller is entitled accrues up to, but not including, the day of delivery.¹ For example, a 4 per cent bond (principal amount \$1,000) with interest payable January 1 and July 1, bought on Tuesday, June 20, is deliverable on Monday, June 26. The interest accrues up to but not including June 26. The calculation of the accrued interest is as follows:

| | |
|---------------------------------|------------------|
| \$1,000 at 4% for 5 months..... | \$16.6667 |
| \$1,000 at 4% for 25 days..... | 2.7778 |
| Total Accrued Interest..... | <u>\$19.4445</u> |

In the instance of a bond sold on a "delayed delivery" basis and quoted 85¼ "S7F," the seller has the option of making delivery within seven days. Accrued interest, however, does not accrue up to the day of actual delivery but rather to the day of delivery "regular way." For example, if the 4 per cent bond mentioned above were sold on Tuesday, June 20, on a delayed delivery basis, the interest would accrue up through Sunday, June 25, even though delivery may not be made until later.

¹ Accrued interest is calculated on a 30-day month, 360-day year, except in the instance of certain United States Government bonds on which the exact number of days falling within the interest period is used. See Chapter Ten.

Flat. The price on a bond that is in default in the payment of interest or on which interest is a contingent charge (an income

BOND INTEREST TABLE

INTEREST ON \$1,000 FROM ONE DAY TO SIX MONTHS

| <i>Days</i> | <i>2 Per Cent</i> | <i>3 Per Cent</i> | <i>4 Per Cent</i> | <i>5 Per Cent</i> | <i>6 Per Cent</i> |
|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1 | \$0.0555 | \$0.0833 | \$0.1111 | \$0.1389 | \$0.1667 |
| 2 | 0.1111 | 0.1667 | 0.2222 | 0.2778 | 0.3333 |
| 3 | 0.1667 | 0.2500 | 0.3333 | 0.4167 | 0.5000 |
| 4 | 0.2222 | 0.3333 | 0.4444 | 0.5556 | 0.6667 |
| 5 | 0.2778 | 0.4167 | 0.5555 | 0.6944 | 0.8333 |
| 6 | 0.3333 | 0.5000 | 0.6667 | 0.8333 | 1.0000 |
| 7 | 0.3889 | 0.5833 | 0.7778 | 0.9722 | 1.1667 |
| 8 | 0.4444 | 0.6667 | 0.8889 | 1.1111 | 1.3333 |
| 9 | 0.5000 | 0.7500 | 1.0000 | 1.2500 | 1.5000 |
| 10 | 0.5555 | 0.8333 | 1.1111 | 1.3889 | 1.6667 |
| 11 | 0.6111 | 0.9167 | 1.2222 | 1.5278 | 1.8333 |
| 12 | 0.6667 | 1.0000 | 1.3333 | 1.6667 | 2.0000 |
| 13 | 0.7222 | 1.0833 | 1.4444 | 1.8055 | 2.1667 |
| 14 | 0.7778 | 1.1667 | 1.5555 | 1.9444 | 2.3333 |
| 15 | 0.8333 | 1.2500 | 1.6667 | 2.0833 | 2.5000 |
| 16 | 0.8889 | 1.3333 | 1.7778 | 2.2222 | 2.6667 |
| 17 | 0.9444 | 1.4167 | 1.8889 | 2.3611 | 2.8333 |
| 18 | 1.0000 | 1.5000 | 2.0000 | 2.5000 | 3.0000 |
| 19 | 1.0555 | 1.5833 | 2.1111 | 2.6389 | 3.1667 |
| 20 | 1.1111 | 1.6667 | 2.2222 | 2.7778 | 3.3333 |
| 21 | 1.1667 | 1.7500 | 2.3333 | 2.9167 | 3.5000 |
| 22 | 1.2222 | 1.8333 | 2.4444 | 3.0555 | 3.6667 |
| 23 | 1.2778 | 1.9167 | 2.5555 | 3.1944 | 3.8333 |
| 24 | 1.3333 | 2.0000 | 2.6667 | 3.3333 | 4.0000 |
| 25 | 1.3889 | 2.0833 | 2.7778 | 3.4722 | 4.1667 |
| 26 | 1.4444 | 2.1667 | 2.8889 | 3.6111 | 4.3333 |
| 27 | 1.5000 | 2.2500 | 3.0000 | 3.7500 | 4.5000 |
| 28 | 1.5555 | 2.3333 | 3.1111 | 3.8889 | 4.6667 |
| 29 | 1.6111 | 2.4167 | 3.2222 | 4.0278 | 4.8333 |
| 30 | 1.6667 | 2.5000 | 3.3333 | 4.1667 | 5.0000 |
| <i>Months</i> | | | | | |
| 1 | 1.6667 | 2.5000 | 3.3333 | 4.1667 | 5.0000 |
| 2 | 3.3333 | 5.0000 | 6.6667 | 8.3333 | 10.0000 |
| 3 | 5.0000 | 7.5000 | 10.0000 | 12.5000 | 15.0000 |
| 4 | 6.6667 | 10.0000 | 13.3333 | 16.6667 | 20.0000 |
| 5 | 8.3333 | 12.5000 | 16.6667 | 20.8333 | 25.0000 |
| 6 | 10.0000 | 15.0000 | 20.0000 | 25.0000 | 30.0000 |

bond) is usually quoted "flat"; that is, accrued interest is not added to the price. For example, the complete price of a bond (principal amount \$1,000) quoted at 42 and selling "flat" is \$420. The price of \$420 includes any interest payment that may be anticipated at the time of sale.

Yield on bonds. In view of the fact that the buyer of a bond

purchases the bond for the purpose of receiving both a return in the form of semi-annual interest payments during the life of the bond and the repayment of the principal at maturity, the price of the bond alone is not the sole criterion of its value. A 5 per cent bond maturing in five years and selling at 105 is not cheaper than a similar bond maturing in twenty years and selling at 110 $\frac{3}{4}$, since the former yields 3.9 per cent compared to 4.2 per cent for the latter. The investor is more concerned with the relationship between his current investment and the return on the investment, which is called yield and is expressed as a percentage.

Nominal and current yield. Yield on a bond may be expressed as nominal yield, current yield, and net yield to maturity. In a 4 per cent bond due in ten years and purchased at 90, the nominal yield is 4 per cent, meaning that the issuer pays interest at the annual rate of 4 per cent on the principal amount (\$1,000). This, however, does not represent the real yield to the buyer, since the \$40 annual interest which he receives is on an investment of only \$900. The current yield, on the other hand, gives recognition to the relationship between the dollars of interest received, in this case \$40, and the dollars of investment, in this case \$900. In this instance, the current yield to the investor is 4.44 per cent.

Net yield to maturity. The current yield, in turn, ignores other pertinent features of the investment. In the first place, the bondholder's return also involves the repayment at maturity of the principal of \$1,000, which will be \$100 more than he invested. The appreciation in value of a bond purchased at a discount which takes place between the purchase date and the maturity date is called "accumulation" and is measured as the difference between the principal amount and the purchase price. On the other hand, if the bond is purchased at 106, the bondholder will receive \$1,000 at maturity in repayment of the principal, or \$60 less than he invested. The depreciation in the value of a bond purchased at a premium, which occurs between the purchase date and the maturity date, is called "amortization" and is measured as the difference between the purchase price and the principal amount. In order, therefore, to give full consideration to (a) the dollars received in annual interest payments, (b) the accumulation or amortization, and (c) the number of years the bond will run to maturity, yield is usually expressed as "net yield to maturity." Net yield to maturity may be calculated either by the approximate method or by reference to a bond table.

Approximate method. The holder of a 4 per cent bond due in ten years and purchased at 90 will receive \$40 annually as interest. At maturity he will receive \$1,000, or \$100 more than he invested. This accumulation of \$100 ($\$1,000 - \900), however, occurs during the life of the bond or at an average annual rate of \$10 ($\$100/10$ years). As a result, his average annual return is \$50 ($\$40 + \10). The bondholder's initial investment is \$900. In view of the annual accumulation, however, his investment increases each year by \$10. His investment is \$910 at the beginning of the second year and \$990 at the beginning of the tenth year. As a result, his average annual investment is \$945 ($\$900 + \990 or $\$1,890/2$). An average annual return of \$50 on an average annual investment of \$945 affords an average annual yield of 5.291 per cent. The rising investment and the corresponding decrease in yields is illustrated in the following table:

| <i>Year</i> | <i>Cost</i> | <i>Annual Interest</i> | <i>Accumulation</i> | <i>Total Interest</i> | <i>Yield (%)</i> |
|--------------------|-------------|----------------------------|---------------------|---------------------------|------------------|
| 1..... | \$900 | \$40 | \$10 | \$50 | 5.55 |
| 2..... | 910 | 40 | 10 | 50 | 5.49 |
| 3..... | 920 | 40 | 10 | 50 | 5.43 |
| 4..... | 930 | 40 | 10 | 50 | 5.37 |
| 5..... | 940 | 40 | 10 | 50 | 5.31 |
| 6..... | 950 | 40 | 10 | 50 | 5.26 |
| 7..... | 960 | 40 | 10 | 50 | 5.20 |
| 8..... | 970 | 40 | 10 | 50 | 5.15 |
| 9..... | 980 | 40 | 10 | 50 | 5.10 |
| 10..... | 990 | 40 | 10 | 50 | 5.05 |
| Average yield..... | | | | | <u>5.291%</u> |

Similarly, the holder of a 4 per cent bond due in ten years and purchased at 106 will receive \$40 annually as interest. At maturity he will receive \$1,000, or \$60 less than he invested. This loss of \$60 ($\$1,060 - \$1,000$), however, occurs during the life of the bond, or at an average annual rate of \$6 ($\$60/10$ years). As a result the average annual return is \$34 ($\$40 - \6). The bondholder's initial investment is \$1,060. In view of the annual amortization, however, his investment decreases each year by \$6. His investment is \$1,054 at the beginning of the second year and \$1,006 at the beginning of the tenth year. As a result, his average annual investment is \$1,033 ($\$1,060 + \$1,006$ or $\$2,066/2$). An average annual return of \$34 on an average annual investment of \$1,033 affords an average annual yield of 3.291 per cent. The decreasing value of the investment and the corresponding increase in yield is illustrated in the following table:

| <i>Year</i> | <i>Cost</i> | <i>Annual Interest</i> | <i>Amorti- zation</i> | <i>Net Interest</i> | <i>Yield (%)</i> |
|---------------------|-------------|----------------------------|---------------------------|-------------------------|------------------|
| 1..... | \$1060 | \$40 | \$6 | \$34 | 3.20 |
| 2..... | 1054 | 40 | 6 | 34 | 3.22 |
| 3..... | 1048 | 40 | 6 | 34 | 3.24 |
| 4..... | 1042 | 40 | 6 | 34 | 3.26 |
| 5..... | 1036 | 40 | 6 | 34 | 3.28 |
| 6..... | 1030 | 40 | 6 | 34 | 3.30 |
| 7..... | 1024 | 40 | 6 | 34 | 3.32 |
| 8..... | 1018 | 40 | 6 | 34 | 3.34 |
| 9..... | 1012 | 40 | 6 | 34 | 3.36 |
| 10..... | 1006 | 40 | 6 | 34 | 3.38 |
| Average yield | | | | | 3.291% |

Bond table. The more common method of determining the net yield to maturity on a bond is by reference to a standard bond table such as the Rollins tables (Bond Values, Montgomery Rollins), Sprague tables (Complete Bond Tables, Charles E. Sprague) or Johnson tables (Bond Yields, D. C. Johnson and others). The Rollins tables show the value to the nearest cent of a bond for \$100, bearing interest at the rates of 2, 2½, 3, 3½, 4, 4½, 5, 6, and 7 per cent and yielding from 2 to 7 per cent. The Sprague tables show the value, to the nearest cent, of a bond for \$1,000,000, bearing interest from 3 to 7 per cent and yielding from 1¼ to 10 per cent. The Johnson tables show the yields obtainable from bonds of standard denominations, maturities, and interest rates.

Basis of bond table. A bond table is based on the assumption that a bond buyer is purchasing the present net worth of the face of the bond and the present value of the interest coupons discounted according to the various maturities. The present net worth of the principal of the bond at maturity is not determined by the interest rate the bond bears but, rather, by the prevailing rate of income return on similar securities. The present worth of the right to receive \$1,000 in 15 years is determined by compound discount and is equivalent to the amount that accumulates to \$1,000 in 15 years at compound interest at the prevailing rate of income return. It is the value of the principal today, compound discounted to the date of maturity at the interest rate the investment yields. The present worth of the coupons depends upon the aggregate amount of the payments, each of which is determined by the nominal interest rate, compound discounted at the yield rate to the present day. In most bonds with a maturity of over twelve years and in all bonds with a maturity of over twenty years, the present worth of the coupons exceeds the present worth of the principal.

The more distant the maturity, the less valuable is the present worth of the principal of the bond.

Uses of bond table. The problems most frequently arising in connection with bond investment are either to determine the net yield of a bond when the price, coupon rate, and maturity date are known, or to determine the price at which a bond of a known coupon rate and maturity should sell to give a desired yield. In either case, the answer is found by reference to the bond table. For example, in the discount bond mentioned above (4 per cent bond, maturing in ten years and purchased at 90), reference to the bond table shows a net yield of 5.3013 per cent and in the premium bond (4 per cent bond, maturing in ten years and purchased at 106) a yield of 3.2909 per cent.

Interpolation. Bond tables, however, are not complete in the sense that they give the net yield on every amount invested at every possible rate of interest for every possible maturity. Such a compilation is impracticable. The exact yield (or price) in many instances must be determined by interpolation. For example, the bond table does not give the yield for a 4 per cent bond due in ten years and selling at 90. It does report yields of 5.30 per cent at a price of 90.01 and of 5.375 per cent at a price of 89.47. The yield at the price of 90 is somewhere between 5.30 per cent and 5.375 per cent. The interpolation of these yields shows the exact yield at 90 to be 5.3013 per cent, which is determined as follows:

| Price | Yield |
|------------|-------|
| 90.01..... | 5.30 |
| 90.00..... | |
| 89.47..... | 5.375 |

} X

The difference between the yield of 5.30 per cent at 90.01 and at 90 is the unknown and is determined by proportion.

$$\frac{.01(90.01 - 90.00)}{.54(90.01 - 89.47)} = \frac{X}{.075(5.375 - 5.30)}$$

$$.54 X = .01 \times .075$$

$$X = .0013$$

Since the difference between the yield at 90.01 and at 90.00 is .0013, the yield at 90 is 5.3013 per cent.

Although there are special bond yield tables that report exact yields for maturities at intervals of less than six months, the usual table is based upon six-month intervals. If the investor seeks to determine the yield to maturity on a bond which matures within a six-months period and is using a bond yield table with maturities

only at intervals of six months, it is necessary to interpolate. Assume, for example, that it is desired to find the exact yield on a 4 per cent bond maturing in 12 years and $3\frac{1}{2}$ months and selling at 121. Reference to a bond yield table shows the following yields for a 4 per cent bond:

| <i>Maturity</i> | <i>Price</i> | <i>Yield</i> |
|--------------------------------|--------------|--------------|
| 12 years..... | 121.24 | 2.00 |
| | 120.65 | 2.05 |
| $12\frac{1}{2}$ years. | 121.41 | 2.05 |
| | 120.79 | 2.10 |

Since the bond will mature in 12 years and $3\frac{1}{2}$ months, it is necessary to interpolate the yield for both a 12 year maturity and for a $12\frac{1}{2}$ year maturity at a price of 121.

| | | |
|-----------------------------------|--------------|-------------------------------|
| Maturity 12 years: | <i>Price</i> | <i>Yield</i> |
| | 121.24 | 2.00 |
| | 121.00 | |
| | 120.65 | 2.05 |
| $\frac{.24}{.59} = \frac{X}{.05}$ | $X = .0203$ | $2.00 + .0203 = 2.0203$ yield |

| | | |
|-----------------------------------|--------------|-----------------------------|
| Maturity $12\frac{1}{2}$ years: | <i>Price</i> | <i>Yield</i> |
| | 121.41 | 2.05 |
| | 121.00 | |
| | 120.79 | 2.10 |
| $\frac{.41}{.62} = \frac{X}{.05}$ | $X = .033$ | $2.05 + .033 = 2.083$ yield |

The difference between the yield for $12\frac{1}{2}$ years (2.083) and for 12 years (2.0203) is .0627 per cent for 180 days (one-half of one year). Since the bond runs for 3 months and 15 days or 105 days beyond 12 years, the yield is 2.05687 per cent computed as follows:

$$\frac{105}{180} \times .0627 = .03657 \quad 2.0203 + .03657 = 2.05687 \text{ per cent yield}$$

Constant period rate. Bond tables give the nominal annual rate realized by the investor if the bond is bought at the price designated in the table. If, therefore, the bond is held to maturity, one half of the designated annual rate shown in the table, or arrived at by interpolation, is the constant-period rate realized on a changing book value. Calculation of the yield by the approximate method assumes that the book value increases or decreases by equal amounts annually. Inasmuch, however, as it is customary to adjust the book value upon the receipt of each interest payment, the book value actually changes semi-annually. If the bond account is kept scientifically, the rate of return remains constant but the gain or

BOND TABLE
10 YEARS, INTEREST PAYABLE SEMI-ANNUALLY
Bonds Bearing Interest at the Rate of

| <i>Net per Annum</i> | 6% | 5½% | 5% | 4½% | 4¼% | 4% | 3½% |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|
| 3 | 125.75 | 121.46 | 117.17 | 112.88 | 110.73 | 108.58 | 104.29 |
| 3.10 | 124.77 | 120.50 | 116.23 | 111.96 | 109.82 | 107.69 | 103.42 |
| 3½ | 124.53 | 120.26 | 116.00 | 111.73 | 109.60 | 107.47 | 103.20 |
| 3.20 | 123.80 | 119.65 | 115.30 | 111.05 | 108.93 | 106.80 | 102.55 |
| 3¼ | 123.32 | 119.08 | 114.84 | 110.60 | 108.48 | 106.36 | 102.12 |
| 3.30 | 122.84 | 118.61 | 114.38 | 110.15 | 108.04 | 105.92 | 101.69 |
| 3⅜ | 122.12 | 117.91 | 113.70 | 109.48 | 107.37 | 105.27 | 101.05 |
| 3.40 | 121.89 | 117.68 | 113.47 | 109.26 | 107.15 | 105.05 | 100.84 |
| 3½ | 120.94 | 116.75 | 112.56 | 108.38 | 106.28 | 104.19 | 100.00 |
| 3.60 | 120.01 | 115.84 | 111.67 | 107.50 | 105.42 | 103.33 | 99.17 |
| 3⅝ | 119.77 | 115.61 | 111.45 | 107.28 | 105.20 | 103.12 | 98.96 |
| 3.70 | 119.08 | 114.93 | 110.78 | 106.64 | 104.56 | 102.49 | 98.34 |
| 3¾ | 118.62 | 114.48 | 110.34 | 106.21 | 104.14 | 102.07 | 97.93 |
| 3.80 | 118.16 | 114.03 | 109.91 | 105.78 | 103.71 | 101.65 | 97.52 |
| 3⅞ | 117.48 | 113.37 | 109.25 | 105.14 | 103.08 | 101.03 | 96.92 |
| 3.90 | 117.25 | 113.14 | 109.04 | 104.93 | 102.88 | 100.82 | 96.71 |
| 4 | 116.35 | 112.26 | 108.18 | 104.09 | 102.04 | 100.00 | 95.91 |
| 4.10 | 115.46 | 111.39 | 107.32 | 103.25 | 101.22 | 99.19 | 95.12 |
| 4⅛ | 115.24 | 111.17 | 107.11 | 103.05 | 101.02 | 98.98 | 94.92 |
| 4.20 | 114.58 | 110.53 | 106.48 | 102.43 | 100.40 | 98.38 | 94.33 |
| 4¼ | 114.14 | 110.10 | 106.06 | 102.02 | 100.00 | 97.98 | 93.94 |
| 4.30 | 113.70 | 109.67 | 105.64 | 101.61 | 99.60 | 97.58 | 93.55 |
| 4⅜ | 113.05 | 109.03 | 105.02 | 101.00 | 99.00 | 96.99 | 92.97 |
| 4.40 | 112.83 | 108.82 | 104.81 | 100.80 | 98.80 | 96.79 | 92.78 |
| 4½ | 111.97 | 107.98 | 103.99 | 100.00 | 98.00 | 96.01 | 92.02 |
| 4.60 | 111.12 | 107.15 | 103.18 | 99.21 | 97.22 | 95.23 | 91.26 |
| 4⅝ | 110.91 | 106.94 | 102.98 | 99.01 | 97.02 | 95.04 | 91.07 |
| 4.70 | 110.28 | 106.32 | 102.37 | 98.42 | 96.44 | 94.47 | 90.51 |
| 4¾ | 109.86 | 105.92 | 101.97 | 98.03 | 96.06 | 94.08 | 90.14 |
| 4.80 | 109.44 | 105.51 | 101.57 | 97.64 | 95.67 | 93.71 | 89.77 |
| 4⅞ | 108.82 | 104.90 | 100.98 | 97.06 | 95.10 | 93.14 | 89.22 |
| 4.90 | 108.61 | 104.70 | 100.78 | 96.87 | 94.91 | 92.95 | 89.04 |
| 5 | 107.79 | 103.90 | 100.00 | 96.10 | 94.15 | 92.21 | 88.31 |
| 5.10 | 106.98 | 103.10 | 99.22 | 95.35 | 93.41 | 91.47 | 87.59 |
| 5⅛ | 106.78 | 102.91 | 99.03 | 95.16 | 93.22 | 91.28 | 87.41 |
| 5.20 | 106.18 | 102.32 | 98.46 | 94.59 | 92.66 | 90.73 | 86.87 |
| 5¼ | 105.78 | 101.93 | 98.07 | 94.22 | 92.30 | 90.37 | 86.52 |
| 5.30 | 105.38 | 101.54 | 97.69 | 93.85 | 91.93 | 90.01 | 86.17 |
| 5⅝ | 104.79 | 100.96 | 97.13 | 93.30 | 91.38 | 89.47 | 85.64 |
| 5.40 | 104.59 | 100.77 | 96.94 | 93.12 | 91.20 | 89.29 | 85.47 |
| 5½ | 103.81 | 100.00 | 96.19 | 92.19 | 90.48 | 88.58 | 84.77 |

loss in book value varies from period to period. For example, if a \$1,000 principal value bond bearing annual interest at the rate of 4 per cent payable January 1 and July 1 and due July 1, 1951, is bought on January 1, 1948, at 104, the yield is 2.7924 per cent, or a

constant semi-annual return of 1.3962 per cent. The changing net interest and amortization charges are as follows:

| <i>Date</i> | <i>Total Interest Received^a</i> | <i>Net Income^b</i> | <i>Amorti- zation</i> | <i>Book Value</i> |
|------------------------|--|-----------------------------------|---------------------------|-----------------------|
| 1948, Jan. 1 | | | | 1,040.00 |
| July 1 | \$20 | \$14.52 | \$5.48 | 1,034.52 |
| 1949, Jan. 1 | 20 | 14.44 | 5.56 | 1,028.96 |
| July 1 | 20 | 14.37 | 5.63 | 1,023.33 |
| 1950, Jan. 1 | 20 | 14.29 | 5.71 | 1,017.62 |
| July 1 | 20 | 14.21 | 5.79 | 1,011.83 |
| 1951, Jan. 1 | 20 | 14.13 | 5.87 | 1,005.96 |
| July 1 | 20 | 14.04 | 5.96 | 1,000.00 |
| | <u>\$140</u> | <u>\$100.00</u> | <u>\$40.00</u> | |

^a 4 per cent on \$1,000 principal value.

^b 2.7924 per cent on book value

The approximate yield rate per period is calculated as follows: the average loss of value of the bond per period is \$5.714 ($\$40/7$). The book value for the first period is \$1,040 and the approximate book value for the last period is \$1,005.714. As a result, the average book value is \$1,022.857 ($\$1,040 + \$1,005.714 = \$2,045.714/2$). Since the average net interest realized is \$14.286 ($\$20 - \5.714) the approximate yield rate per period is .013966 per cent ($\$14.286/\$1,022.857$) and the annual rate is 2.793 per cent (.013966 per cent $\times 2$).

On the other hand, if a \$1,000 principal value bond bearing annual interest at the rate of 4 per cent payable January 1 and July 1 and due July 1, 1949, is bought on January 1, 1947, at \$980.90, the yield is 4.82 per cent. The bondholder will receive \$1,000 at maturity, or an accumulation of \$19.10 ($\$1,000 - \980.90) or an average per period of \$3.82 ($\$19.10/5$). The book value during the first period is \$980.90 and during the last period \$996.18 ($\$1,000 - \3.82), or an average of \$988.54 ($\$980.90 + \$996.18 = \$1,977.08/2$). As a result, the approximate yield rate per period is 2.4096 per cent ($\$23.82/\988.54) or 4.8192 per cent annually.

When the number of periods remaining in the life of the bond is small, the approximate method, using periods, gives the yield rate correct to four decimal places. In the case just considered, the correct yield rate was 4.82 per cent and the approximate yield rate was 4.8192 per cent. If the bond account is kept scientifically, the accumulation of value varies from \$3.64 for the first interest period to \$4.00 for the last period, but the net income or total interest realized on the changing book value is always 2.41 per cent per period, as indicated by the following table:

| <i>Date</i> | <i>Total Interest Received^a</i> | <i>Net Income^b</i> | <i>Accumulation</i> | <i>Book Value</i> |
|------------------------|--|-----------------------------------|---------------------|-----------------------|
| 1947, Jan. 1 | | | | \$980.90 |
| July 1 | \$20 | \$23.64 | \$3.64 | 984.54 |
| 1948, Jan. 1 | 20 | 23.73 | 3.73 | 988.27 |
| July 1 | 20 | 23.82 | 3.82 | 992.09 |
| 1949, Jan. 1 | 20 | 23.91 | 3.91 | 996.00 |
| July 1 | 20 | 24.00 | 4.00 | 1000.00 |
| | <u>\$100</u> | <u>\$119.10</u> | <u>\$19.10</u> | |

^a 4 per cent on principal value

^b 4 82 per cent on book value

Callable bonds. The calculation of the net yield on a bond that is callable for redemption prior to maturity presents the problem of determining the date to be used. Inasmuch as the redemption option rests with the issuer, it is reasonable to assume that the option will be exercised when market conditions are favorable to the issuer. In the instance of a redeemable bond purchased at a discount from the call price, the final date of payment is considered as the date of maturity. This is on the theory that so long as the market price is less than the call price, any retirement program inaugurated by the issuer will be by open-market purchase rather than by call for redemption. On the other hand, when purchased at a premium above the call price, the earliest possible call date is taken as the date of maturity. For example, in a 4 per cent bond, due in 1985 and callable beginning 1960 at 105, the net yield is calculated to 1985 if purchased at 102 and to 1960 if purchased at 110.

Market price of stocks. The market price of a stock is quoted directly in dollars per share. A price of 84 for a stock means \$84 a share. The quotation on a listed stock refers to the last price at which a transaction in the trading unit of the stock was completed. In the instance of an unlisted stock, the quotation is usually in the form of bid and asked prices. A quotation on a stock of "bid: 85; asked: 86" means that the best price which buyers are willing to pay is 85, or \$85 a share, and the best price for which sellers are willing to sell is 86, or \$86 a share. Stock prices are quoted in terms of eighths of a point. A quotation of 85 $\frac{1}{8}$ for a stock means \$85.125 a share.

Flat. Stock prices are quoted "flat"; that is, the price quoted includes any possible accrued dividend, in contrast to the quotation on a bond, which excludes accrued interest. The market price of a stock is influenced in part by the declaration or expected declaration of a dividend. Dividend distributions involve consideration of the declaration date, the record date, and the payment date. For ex-

ample, Company A declares a dividend of fifty cents a share on the common stock payable on November 15, to stockholders of record on Friday, October 30. Since buyers of the stock prior to the record date are entitled to receive the current dividend, the price reflects the dividend. On the other hand, since stock purchased after the record date does not entitle the holder to the current dividend, the stock sells "ex-dividend" and the market price tends to decline by the amount of the dividend.

Ex-dividend. The "ex-dividend" date, under New York Stock Exchange rules, is the third full business day preceding the date fixed as the record date, or the date on which the transfer books are to be closed, as the case may be. The rule provides that:

Transactions in shares shall be ex-dividend on the third full business day preceding the record date as fixed by the corporation or on the day of the closing of transfer books therefor, except transactions therein made specifically for "cash." Should such record date or such closing of transfer books occur upon a holiday or half-holiday observed by the Exchange, this rule shall apply for the fourth preceding full business day. The Committee on Securities may, however, in any particular case, direct otherwise.

Since the record date of October 30 in the instance of Company A is a Friday, the stock goes "ex-dividend" on Tuesday, October 27. On the other hand, Company B also declares a dividend but with Saturday, October 31, as the record date. Inasmuch as October 31 is a Saturday, a half-holiday, the stock goes "ex-dividend" on Tuesday, October 27.

Yield on stocks. The yield on stock represents the relation between the dividend income and the cost price of the stock. For example, a preferred stock paying \$7 annual dividend and purchased at \$170 affords a yield to the buyer of 4.1 per cent ($\$7/\170). In like manner, a common stock paying a dividend at the annual rate of \$6 and purchased at \$120 gives a yield of 5 per cent ($\$6/\120).

In view of the fact that the dividend on stock is contingent upon earnings and the discretion of the directors, the calculation of yield is not as significant as the yield on a bond. The calculation of yield on a preferred stock, however, is more justified than on a common stock. Dividend rates on preferred stocks are fixed in time and amount and therefore provide a more dependable basis for the calculation. On the other hand, dividend payments on common stocks are subject to change and, in the instance of even the largest corporations, have been increasingly irregular in amount during the economic disturbances of recent years.

Since the yield on a stock depends upon two variables, it may not be the same to all investors in the stock or to the same investor for an extended period. A stock paying a current dividend at an annual rate of \$5 affords a yield of 5 per cent to the buyer at \$100 but only 4.55 per cent to the buyer at 110. On the other hand, the buyer at \$100 obtains a yield of 5 per cent only so long as the dividend continues at that rate. If the rate were later reduced to \$4, the buyer at \$100 would receive a current yield of only 4 per cent.

Cost of security purchase. The total cost to the buyer of a bond involves the price, accrued interest, and broker's commission. The purchase on Monday, February 24, at $116\frac{1}{8}$ of a 4 per cent bond due in 1995, interest payable May 1 and November 1, would cost the buyer \$1,179.25, computed as follows:

| | | |
|---|---------------|-------------|
| Principal: 1 bond at \$1,161.25 | | \$1,161.25 |
| Accrued interest: | | |
| 3 months at 4% | \$10.0000 | |
| 27 days at 4% | <u>3.0000</u> | 13.00 |
| Commission: 1 bond at \$5 | | <u>5.00</u> |
| Total cost | | \$1,179.25 |

The minimum commission rates per \$1,000 of principal on long-term bonds as established by the New York Stock Exchange are:

| <i>Price per \$1,000 of Principal</i> | <i>1 or 2 Bonds</i> | <i>3 Bonds</i> | <i>4 Bonds</i> | <i>5 or More Bonds</i> |
|---|-------------------------|--------------------|--------------------|----------------------------|
| Less than \$10 | \$1.50 | \$1.20 | \$.90 | \$.75 |
| \$10 and over but under \$100 | 2.50 | 2.00 | 1.50 | 1.25 |
| \$100 and over | 5.00 | 4.00 | 3.00 | 2.50 |

In addition, the Exchange has set up certain special commission rates:

a. On bonds of the United States, Puerto Rico, Philippine Islands and States, territories and municipalities, such rate as may be mutually agreed upon.

b. On bonds which mature in less than six months, or are to be redeemed by call or otherwise in less than six months, and are selling at not less than 96 per cent and not more than 110 per cent of their redemption price, such rate as may be mutually agreed upon.

c. On bonds which will mature in not less than six months and not more than five years, or are to be redeemed by call or otherwise in not less than six months and not more than twelve months, and are selling at not less than 96 per cent and not more than 110 per cent of their redemption price, the minimum rate is \$2.50 on one or two bonds, \$2 on three bonds, \$1.50 on four bonds, and \$1.25 on five or more bonds.

The total cost to the buyer of stock involves the price and the broker's commission. The purchase of 100 shares (\$100 par) at \$65 per share would cost the buyer \$6,541.50, computed as follows:

| | |
|---|-------------------|
| Price: 100 shares at \$65 | \$6,500.00 |
| Commission: $\frac{1}{10}\%$ of \$6,500 plus \$35 | 41.50 |
| Total cost | <u>\$6,541.50</u> |

The minimum commission rates on stocks, rights, and warrants (except called stocks) as established by the New York Stock Exchange are:

(On stocks selling at \$1.00 a share and above:)

| <i>Money Value</i> | <i>Commission</i> |
|----------------------------------|-------------------------|
| Under \$ 100.00 | As mutually agreed |
| \$ 100.00 to 1,999.99 | 1% + \$ 5 |
| \$2,000.00 to 4,999.99 | $\frac{1}{2}\%$ + \$15 |
| \$5,000.00 and above | $\frac{1}{10}\%$ + \$35 |

(On stocks selling below 50 cents per share:)

| <i>Price per Share</i> | <i>Rate per Share</i> |
|--|-----------------------|
| $\frac{1}{256}$ of \$1. | 0.1 ¢ |
| $\frac{1}{128}$ of \$1. | 0.15 |
| $\frac{1}{64}$ of \$1 and above but under $\frac{3}{32}$ of \$1. | 0.5 |
| $\frac{3}{32}$ of \$1. | 0.5 |
| Over $\frac{3}{32}$ of \$1 but under $\frac{8}{32}$ of \$1. | 1.0 |
| $\frac{8}{32}$ of \$1 and above but under $\frac{1}{2}$ of \$1 | 2.0 |

The commission rates on odd lots are as follows:

| <i>Money Value</i> | <i>Commission</i> |
|----------------------------------|-------------------------|
| Under \$ 100.00 | As mutually agreed |
| \$ 100.00 to 1,999.99 | 1% + \$ 3 |
| \$2,000.00 to 4,999.99 | $\frac{1}{2}\%$ + \$13 |
| \$5,000.00 and above | $\frac{1}{10}\%$ + \$33 |

The commission on 20 shares at \$50 a share is \$13.00 computed as follows:

$$\begin{aligned} 20 \text{ shares} \times \$50 &= \$1,000 \text{ money value} \\ 1\% \text{ of } \$1,000 \text{ plus } \$3 &= \$13.00 \end{aligned}$$

The minimum commission on any single transaction of 100 shares or less may not exceed \$50, with a maximum charge of \$1 per share. Where \$100 or more is involved, the minimum commission is \$6 per transaction. The commission charge on a transaction involving multiples of 100 share, e.g., 200, 300, 400, etc. shares, is determined by multiplying the applicable 100 share commission by 2, 3, 4, etc., respectively, as the case may be.

Net proceeds of security sale. The net proceeds to the seller of a bond involve the price, accrued interest, broker's commission, federal transfer tax, and Securities and Exchange Commission registration fee. The sale on February 24 at $116\frac{1}{8}$ of a 4 per cent bond, due in 1995, interest payable May 1 and November 1, would net the seller \$1,168.72, computed as follows:

| | | |
|--|--------------|--------------|
| Principal: 1 bond at \$1,161.25 | | \$1,161.25 |
| Accrued interest: 3 months at 4% | \$10.000 | |
| 27 days at 4% | <u>3.000</u> | <u>13.00</u> |
| | | \$1,174.25 |
| Less: | | |
| Commission: 1 bond at \$5 | \$ 5.00 | |
| Federal transfer tax: | | |
| 1 bond at 50 cents | .50 | |
| S.E.C. registration fee | <u>.03</u> | <u>5.53</u> |
| | | \$1,168.72 |

The seller is entitled to the agreed price for the bond and the accrued interest. The proceeds from the sale are reduced, however, by the payment of the broker's commission, the federal transfer tax and the Securities and Exchange Commission registration fee. The federal government imposes a transfer tax on the sale of all bonds except United States and foreign government and municipal bonds. The tax is at the rate of five cents per \$100 of face value, or fifty cents per \$1,000 bond. The transaction is subject also to the Securities and Exchange Commission registration fee. The Securities Exchange Act of 1934 (Section 31) provides:

Every national securities exchange shall pay to the Commission on or before March 15 of each calendar year a registration fee for the privilege of doing business as a national securities exchange during the preceding calendar year or any part thereof. Such fee shall be in an amount equal to one five-hundredths of one per centum of the aggregate dollar amount of the sales of securities transacted on such national securities exchange during the preceding calendar year and subsequent to its registration as a national securities exchange.

This regulation does not apply to:

. . . securities which are direct obligations of or obligations guaranteed as to principal or interest by the United States or such securities issued or guaranteed by corporations in which the United States has a direct or an indirect interest as shall be designated for exemption from the provisions of this section by the Secretary of the Treasury.

This fee is collected by the New York Stock Exchange from its members at the rate of one cent for each \$500 represented by their transactions. The brokerage commission, the federal transfer tax, and the Commission registration fee are charged to the seller of the security and are withheld by the brokerage firm from the amount credited to the seller.

The seller of stock is entitled to the agreed-upon price for the stock. The proceeds from the sale are reduced, however, by the payment of the broker's commission, the federal transfer tax, the New York State transfer tax, and the Commission's registration fee.

The sale of 100 shares (\$100 par) of stock at \$65 a share would net the seller \$6,448.37, computed as follows:

| | |
|---|--------------|
| Price: 100 shares at \$65. | \$6,500.00 |
| Less: | |
| Commission: $\frac{1}{10}\%$ of \$6,500 plus \$35 | \$41.50 |
| Federal transfer tax: 100 shares at \$0.06. | 6.00 |
| New York State transfer tax: 100 shares at \$0.04. | 4.00 |
| S.E.C. registration fee. | .13 |
| | <u>51.63</u> |
| | \$6,448.37 |

The federal government imposes a transfer tax on the sale of stock. The rate on stocks having a par value and selling at \$20 a share or above is six cents per \$100 of par value or fraction thereof, and the rate on stocks selling below \$20 a share is five cents per \$100 of par value or fraction thereof. The rate on stocks without par value is six cents a share on stocks selling at \$20 a share or above and five cents a share on stocks selling below \$20 a share.²

Some states, including Florida, Massachusetts, New York, Pennsylvania, and South Carolina, also impose a transfer tax on stock transactions if made within the state. New York, for instance, levies a graduated scale as follows: stocks selling under \$5 a share, 1 cent a share; at \$5 but less than \$10 a share, 2 cents; from \$10 to less than \$20 a share, 3 cents a share; above \$20 a share, 4 cents a share. Where no sale is involved, the rate is 2 cents a share. Massachusetts and Pennsylvania levy a transfer tax of two cents per \$100 of par value or fraction thereof in the instance of par value stock, and two cents a share on stocks of no par value.

In security transactions, therefore, a broker's commission is paid by both the buyer and the seller. All federal and state transfer taxes and the Commission's registration fee are paid by the seller.³ The federal government imposes a transfer tax on bonds and stocks, whereas New York State imposes a transfer tax only on stock.

Conversion parities. A convertible bond is one which is convertible at the option of the holder into stock of the company at a fixed ratio. The holder of a convertible bond is faced with three very practical questions: (a) How many shares of stock will be

² Short sales, regardless of selling price, are subject to a federal tax of five cents per \$100 par value, or five cents per share on no par value stock. This tax is on the borrowing of stock, the reborrowing of which involves an additional charge of the same amount.

³ In an odd-lot purchase of stock, the odd-lot broker who provides the stock is a seller and, as such, must pay the transfer tax. The odd-lot broker, however, adds this cost to the price paid by the odd-lot buyer. The federal tax is charged on odd lots bought or sold and the state tax on stocks sold.

received upon conversion of the bond? (b) Under what conditions should the bond be converted? (c) How may the existence of those conditions be determined?

The number of shares of stock the bondholder will receive upon conversion is stated in the bond indenture in terms of a conversion price, which is the value given to the stock for conversion purposes. Assume that a bond issue is convertible at \$50 a share. Regardless of the current market price, the value given to the stock by the corporation for conversion purposes is \$50 a share. Since the corporation gives to the stock a value of \$50 for conversion purposes, the holder of a \$1,000 principal value bond will be entitled to twenty shares (\$1,000/\$50). This relationship (\$1,000/\$50) is the conversion ratio. In order to determine the conversion ratio, therefore, it is necessary to know the conversion price.

The conversion price under the indenture may change in accordance with a specified schedule. For example, one corporate debenture bond provided for the following conversion prices:

| | <i>Conversion</i> | |
|--------------------------------------|-------------------|--------------|
| | <i>Price</i> | <i>Ratio</i> |
| May 1, 1946–May 1, 1956 | \$18.18 | 55 |
| May 1, 1956–May 1, 1966 | 20.83 | 48 |
| May 1, 1966–April 26, 1976 | 25.00 | 40 |

If the conversion price results in a fractional share, an adjustment must be made. For example, with a conversion price of 120, the bondholder is entitled to $8\frac{1}{3}$ shares. The manner of adjusting the fractional share differs with different corporations. The corporation may (a) give a certificate for the full shares (8) and a warrant for the fractional share ($\frac{1}{3}$), which the holder may supplement with sufficient additional warrants ($\frac{2}{3}$) for fractional shares purchased on the market to present for a certificate for a full share; or (b) issue a certificate for the full shares (8) and pay cash for the fractional share ($\frac{1}{3}$); or (c) issue a certificate for nine full shares upon payment by the bondholder for the remaining two-thirds share. The first and second methods are the more common; the third method is seldom used.

Inasmuch as the bondholder in conversion surrenders the bond in exchange for stock, he must consider the respective present values of the two securities. He relinquishes value in the form of the bond and accepts value in the form of stock. Obviously, from the bondholder's standpoint, the only condition under which conversion

is warranted is when the bond value is less than the stock value. The usual method of determining the existence of such condition is by means of parity prices.

Parity price. Parity prices refer to the market prices at which conversion of the bond into stock would represent an equal exchange of value. For example, with the conversion price of \$40 and the stock selling at \$50, what is the parity price of the bond? The calculation of the parity price of the bond involves two factors: the conversion ratio and the prevailing market price of the stock. In this case, the conversion ratio is $\$1,000/\40 , or 25 shares. Should the bondholder convert, he would receive 25 shares, each with a current value of \$50, or a total value of \$1,250. Hence, at a market value of 125 for the bond, conversion would result in an equal exchange of value. The parity price of the bond is 125. Conversion would not be warranted unless the bond were selling for less than 125. Thus, if the current market price of the bond were 120, conversion would be advisable, since the bondholder would surrender \$1,200 in bond value and receive \$1,250 in stock value. The parity price of 125 for the bond in this case is true, however, only when the stock is selling at 50. Should the market price of the stock rise to 55, the parity price of the bond would rise to $137\frac{1}{2}$ (\$1,375). The parity price of the bond changes, therefore, with changes in the market price of the stock.

| <i>Stock Price</i> | <i>Parity Price of Bond</i> |
|--------------------|---------------------------------|
| 40. | 100 |
| 45. | $112\frac{1}{2}$ |
| 50. | 125 |
| 55. | $137\frac{1}{2}$ |
| 60. | 150 |

The parity price of the stock may be determined in a similar manner. For example, with the conversion price of 40 and the bond selling at 90, what is the parity price of the stock? The calculation of the parity price of the stock involves two factors: the conversion ratio and the prevailing market price of the bond. Should the bondholder convert, he would surrender bond value of \$900 and receive in exchange 25 shares which, at an equal exchange of value, would be worth \$36 a share ($\$900/25$). Hence, at a market price of \$36 a share for the stock, conversion would result in an equal exchange of value. The parity price of the stock is 36. Conversion would not be warranted unless the stock were selling above 36. The parity price of 36 for the stock, however, is true only when the

bond is selling at 90. Should the market price of the bond rise to 95, the parity price of the stock would rise to 38. The parity price of the stock changes, therefore, with changes in the market price of the bond.

| <i>Bond Price</i> | <i>Parity Price of Stock</i> |
|-------------------|----------------------------------|
| 80 | 32 |
| 85 | 34 |
| 90 | 36 |
| 95 | 38 |
| 100 | 40 |

In conversion, the bondholder loses the accrued interest on the bond but gains the accrued dividend on the stock. A more exact calculation of conversion parities, however, involves consideration of the differences in the method of quoting bonds and stocks. Since the market price of the bond does not include the accrued interest, whereas the market price of the stock includes the accrued portion of the expected current dividend, it is necessary to put the prices on a common basis. This is accomplished by deducting the accrued current dividend from the market price of the stock. Thus the comparison considers the "and interest" price of the bond and the "and dividend" price of the stock. In the instance of a bond convertible at 40, selling at 112½ on June 9, and the stock paying a dividend on January 2, April 2, July 2, and October 2 at an annual rate of \$2, the parity price of the stock, calculated as above, is 45. The parity price of 45, however, is an "and dividend" price. Since the accrued dividend for 68 days (April 2 to June 9) is 37½ cents, the true parity price of the stock is 44⅝ (\$45 - \$.375). If, therefore, on June 9, the stock is selling at 37⅜, the "and dividend" price is 37 (37⅜ - ⅜), and the stock is selling eight points below the conversion point.

Rights. Subscription rights arise when the corporation issues additional shares of stock and offers them for sale to the present stockholders. If the corporation were to sell the additional shares directly to the public, the proportionate interest of each of the present stockholders would be reduced. For example, if stockholder A holds 1,000 shares in a corporation having 1,000,000 shares outstanding, he has a 1/1,000 interest (1,000/1,000,000). Should the corporation issue and sell to the public an additional 500,000 shares, the interest of stockholder A would be reduced to 1/1,500 interest (1,000/1,500,000). Therefore, to enable the present stockholders to protect their proportionate interest in the corporation,

the latter usually offers the additional shares to the present stockholders before offering them to the public.

A right may be defined as the privilege possessed by a stockholder to subscribe to a new issue of the stock (a) first before it is offered to the public and (b) in proportion to his present holdings. The subscription price is generally sufficiently below the current market price to induce the stockholders to buy additional shares of the stock.⁴ The announcement of rights involves four features: (a) the record date, (b) the basis of subscription, (c) the subscription price, and (d) the expiration date. For example, a company may announce rights on March 30 whereby a stockholder of record on April 6 may subscribe until April 27 to one new share of stock for each ten shares then owned at a subscription price of \$127.50 a share.

Warrants. A right attaches itself to one share of old stock; hence a stockholder has as many rights as he has shares of old stock. A holder of ten shares has ten rights and a holder of 100 shares has 100 rights. Rights are received by stockholders in the form of negotiable stock purchase warrants. The warrant is a certificate that sets forth: (a) the amount of new stock to which the stockholder is entitled to subscribe, (b) the subscription price, (c) the terms of payment, and (d) the date of expiration of the privileged subscription. The reverse side of the certificate provides two blank forms, one of which is to be filled out and signed if the stockholder wishes to exercise the subscription privilege, and the other an assignment blank to be used if the stockholder wishes to sell the privilege.

Market in rights. A market arises in rights. For example, in the instance of the rights described above, a holder of 10 shares has 10 rights and is entitled to subscribe for one new share. The stockholder may exercise the rights (subscribe for the new stock), or he may sell the rights. A stockholder who owns 5 shares of the old stock has 5 rights, which are insufficient to subscribe to one new share. He may either sell the 5 rights or purchase 5 additional rights in order to obtain sufficient rights to entitle him to subscribe

⁴This pre-emptive right is a matter of common law doctrine rather than of statutory enactment. Several states, including New York, have provisions dealing with rights in their general incorporation acts. Other states, such as Indiana and California, eliminate the common law doctrine by specifically providing that no stockholder shall have any pre-emptive right unless that right is reserved in the corporate charter. The pre-emptive right, when recognized, is generally reserved for common stock and applies to newly authorized stock.

to one new share. Market quotations are made in terms of rights and not in terms of warrants.

Value of a right. The value of a right depends upon three factors: (a) the market price of the old stock, (b) the subscription price of the new stock, and (c) the number of rights needed to obtain a warrant to subscribe to one new share. The latter two factors remain constant but the first factor is variable. During the period prior to the record date, the buyer of the old stock is entitled to the right and, as a result, the stock sells "cum rights." A market price of $167\frac{1}{2}$ for the stock referred to above on March 31, when the stock is selling "cum rights," mathematically includes two factors: the price of the stock as a unit of ownership and the value of one right. The price of the stock as a unit of ownership, therefore, is $167\frac{1}{2}$ minus the value of one right. If the subscription rights are to be exercised, the stockholder will have to pay $127\frac{1}{2}$ for a share of the new stock when it is issued. Thus the present stockholder may acquire one additional share for $127\frac{1}{2}$ instead of the current price of $167\frac{1}{2}$ and effect a saving measured by the difference between the price of the stock as a unit of ownership ($167\frac{1}{2}$ minus the value of one right) and the subscription price of $127\frac{1}{2}$, which may be expressed as:

$$167\frac{1}{2} - 1 \text{ right} - 127\frac{1}{2}$$

Since it is necessary to have 10 rights to purchase one share at $127\frac{1}{2}$, this saving represents the value of 10 rights, and hence the value of one right is one tenth of this saving. Stated in algebraic form, the value of a right may be calculated as follows:

$$\begin{aligned} 10 \text{ rights} &= 167\frac{1}{2} - 1 \text{ right} - 127\frac{1}{2} \\ 11 \text{ rights} &= 167\frac{1}{2} - 127\frac{1}{2} \\ 1 \text{ right} &= \frac{167\frac{1}{2} - 127\frac{1}{2}}{11} \\ 1 \text{ right} &= \$3.63 \end{aligned}$$

The value of a right with a stock selling "cum rights" is usually calculated more directly by the formula:

$$\text{Value of 1 right} = \frac{P}{R + 1}$$

in which P represents the premium (market price — subscription price) and R the number of rights needed to subscribe for one share of new stock. In the above case:

$$\text{Value of 1 right} = \frac{40}{10 + 1} = \$3.63$$

Usually the New York Stock Exchange rules that trading in the stock shall not be "ex-rights" on the third full business day prior to the record date (April 6) but that trading from that date "until further notice" shall be with due bills or "cum rights." The effect of the due bill is to require the seller, who will receive the warrants from the company because he was the holder of record on the record date (April 6), to pass them on to the purchaser. During the period when trading in the stock is with due bills or "cum rights," there is often "when issued" trading in the warrants. Beginning on a day fixed by the New York Stock Exchange, usually the second day after the record date (April 8), trading in the stock is "ex-rights," and trading in actual warrants commences. When the stock goes "ex-rights" the buyer of the stock is not entitled to the right, which remains with the seller. A market price of 162 for the stock after April 8, when the stock is selling "ex-rights," does not include the value of a right. Thus the seller, who retains the right, may subscribe for one new share at a saving, which may be expressed as: $162 - 127\frac{1}{2}$. Since it was necessary to have 10 rights to purchase one share at $127\frac{1}{2}$, this saving represented the value of 10 rights. Stated otherwise:

$$\begin{aligned} 10 \text{ rights} &= 162 - 127\frac{1}{2} \\ 1 \text{ right} &= \frac{162 - 127\frac{1}{2}}{10} \\ 1 \text{ right} &= \$3.45 \end{aligned}$$

The value of a right with the stock selling "ex-rights" is usually calculated more directly by the formula:

$$\text{Value of a right} = \frac{P}{R}$$

in which P and R are similar to the formula explained above. In this case

$$\text{Value of a right} = \frac{162 - 127\frac{1}{2}}{10} = \$3.45$$

In practice the theoretical price of the rights and market quotations do not always coincide because of the commissions and taxes involved when rights are traded. The disparity is lessened, however, by the operations of arbitrageurs who sell the stock and purchase rights to cover these sales.

Review Questions

1. Interpret the following bond quotations: Shell Union Oil $2\frac{1}{2}$ s of 1954: 102; Southern Bell T & T 3s of 1979: $112\frac{1}{2}$; Southern Pacific $4\frac{1}{2}$ s of 1968: $105\frac{1}{8}$.

2. Identify each of the following bond quotations as a discount or premium bond: Lorillard 3s of 1963: 106; Illinois Central $4\frac{3}{4}$ s of 1966: $94\frac{3}{4}$.
 3. What is meant by an "and interest" price of a bond?
 4. Indicate the basis of calculating accrued interest.
 5. Compute the accrued interest on a 4 per cent bond, interest payable January 1 and July 1, bought on Tuesday, June 20, for delivery regular way.
 6. Calculate the accrued interest on the same bond sold on a delayed delivery basis giving the seller the option to deliver within 7 days
 7. Calculate the accrued interest on a bond which is quoted "flat" at 55.
 8. Distinguish between the significance of price and yield on the following bonds: 5 per cent bond due in 5 years and selling at 105; 5 per cent bond due in 20 years and selling at $110\frac{3}{4}$.
 9. Name three kinds of yield.
 10. Calculate the nominal yield on a 4 per cent bond due in 10 years and selling at 97.
 11. Calculate the current yield on the same bond.
 12. Name two methods of calculating net yield to maturity.
 13. Calculate the net yield to maturity on a 4 per cent bond due in 10 years and selling at 97.
 14. Calculate the net yield to maturity of a 4 per cent bond due in 10 years and selling at $107\frac{1}{2}$.
 15. Calculate the net yield to maturity of an 8 per cent bond due in 91 years and selling at 244.
 16. Name the standard bond yield tables.
 17. Discuss the theory underlying the construction of a bond yield table.
 18. Calculate the net yield to maturity by use of a bond yield table of a 4 per cent bond due in 10 years and selling at 97.
 19. Calculate the net yield to maturity by use of a bond yield table of a 4 per cent bond due in 10 years and selling at $107\frac{1}{2}$.
 20. Determine the net yield to maturity on a $4\frac{3}{4}$ per cent bond maturing in 12 years $4\frac{1}{2}$ months and purchased at 105 on the basis of the following data taken from a bond yield table:
- | <i>Maturity</i> | <i>Price</i> | <i>Yield</i> | <i>Maturity</i> | <i>Price</i> | <i>Yield</i> |
|-----------------|--------------|--------------|-----------------------|--------------|--------------|
| 12 years | 105.14 | 4.20 | $12\frac{1}{2}$ years | 105.31 | 4.20 |
| | 104.66 | 4.25 | | 104.81 | 4.25 |
21. Indicate the two problems most frequently arising in connection with bond investment.
 22. By use of a bond yield table determine the price at which a $4\frac{1}{2}$ per cent bond due in 10 years would have to sell to yield 3.60 per cent to maturity.
 23. Calculate the net yield on a 4 per cent bond due in 24 years and callable beginning in 4 years at 108 when the bond is selling (a) at 104, and (b) at 112.
 24. Explain the following quotation on railroad equipment trust obligations as reported on the financial page of the *New York Times*:
- | | <i>Maturities</i> | <i>Rates</i> | <i>Bid</i> | <i>Asked</i> |
|-----------------------------|-------------------|---|------------|--------------|
| Atchison, Topeka & Santa Fe | 51-61 | $1\frac{1}{4}$, $1\frac{1}{2}$, $2\frac{1}{4}$, $2\frac{1}{2}$ | 1.25 | 1.10 |
25. Interpret the following stock quotations: American Can preferred: 203; Cluett Peabody common: $53\frac{1}{2}$; Douglas Aircraft common: $104\frac{3}{8}$.
 26. What is meant by the statement that stock prices are quoted "flat"?

27. Name the significant dates in the distribution of a dividend on stock.
28. What is meant by the "ex-dividend" date on a stock?
29. Calculate the yield on a stock selling at 191 and paying an annual dividend at the rate of \$9 a share.
30. Compare the significance of stock yield and bond yield.
31. Name the factors entering into the total cost to the buyer of a bond.
32. Calculate the cost to the buyer of a \$1,000 principal value 3 per cent bond due in 1985, interest payment dates May 1 and November 1, and purchased on February 13 at $110\frac{1}{2}$.
33. Name the factors entering into the total cost to the buyer of stock.
34. Calculate the cost to the buyer of 100 shares of stock purchased at $52\frac{1}{2}$.
35. Calculate the cost to the buyer of 75 shares of stock purchased at $52\frac{1}{2}$.
36. Name the factors entering into the computation of the net proceeds to the seller of a bond.
37. Calculate the net proceeds to the seller of a \$1,000 principal value 3 per cent bond due in 1985, interest payment dates May 1 and November 1, and sold on February 13 at $110\frac{1}{2}$.
38. Name the factors entering into the computation of the net proceeds to the seller of stock.
39. Calculate the net proceeds to the seller of 100 shares of stock sold at $52\frac{1}{2}$.
40. Indicate the problems faced by the holder of a convertible bond.
41. Determine the conversion price and the conversion ratio of a bond convertible into common stock at (a) 125, (b) 110, and (c) 105.
42. Explain how the adjustment is made when the conversion price results in a fractional share.
43. Under what conditions is conversion advisable?
44. Explain the significance of parity prices in convertible bonds.
45. Compute the parity price of a bond convertible at 125 when the stock into which it is convertible is selling at 90.
46. Compute the parity price of the stock into which a bond is convertible if the conversion price is 125 and the bond is selling at 112.
47. Explain the adjustment of accrued interest on the bond and accrued dividend on the stock in the conversion of a bond into stock.
48. Explain the calculation of conversion parities on an "and interest" price for the bond and an "and dividend" price for the stock.
49. What is meant by a stockholder's privileged subscription?
50. Name four important factors in the announcement of a privileged subscription.
51. Distinguish between a right and a warrant.
52. Describe the market in rights.
53. Distinguish between a stock selling "cum rights" and a stock selling "ex-rights."
54. Calculate the value of a right on March 31 from the following data: announcement date, March 30; record date, April 16; basis of subscription—one new share for ten old shares; subscription price, \$125; expiration date, April 30; market price of old stock on March 31, \$157.
55. On the basis of the facts in Problem 54, calculate the value of a right on April 19 with the old stock selling at 152.

Assignment

- (a) Compute the accrued interest on a 4 per cent bond purchased on Friday, November 20, with interest dates February 1 and August 1.
- (b) Calculate the accrued interest on a 4 per cent bond, interest payable January 1 and July 1, bought on Tuesday, May 20, at 80, on an "S7F" basis.
- (c) Compute the current yield, the approximate yield to maturity, and the exact yield to maturity on a 4 per cent bond maturing in ten years and selling at 95.
- (d) Compute the yield to maturity on a 3 per cent bond selling at 151 and maturing in eleven years. The bond is convertible at 150.
- (e) Compute the conversion ratio of a bond with a conversion price of 25.
- (f) Compute the conversion parity of a bond with a conversion price of 110 when the stock into which it is convertible is selling at 65.
- (g) Compute the cost to the buyer and the net proceeds to the seller of 5 corporate bonds (\$1,000 principal value each), 4 per cent coupon rate, due in 1995, interest dates May 1 and November 1, bought on Thursday, February 10, at 103 $\frac{5}{8}$.
- (h) Indicate the ex-dividend dates on the following stocks traded on the New York Stock Exchange:

| <i>Stock</i> | <i>Record Date</i> |
|--------------|-----------------------|
| A | Wednesday, May 20 |
| B | Monday, June 17 |
| C | Thursday, December 26 |

- (i) Compute the yield on a common stock with a dividend payment at the annual rate of \$2 and selling at 60.
- (j) Compute the conversion parity of the stock referred to in (f) when the bond is selling at 95.
- (k) Compute the commission on 57 shares of stock purchased at 67 $\frac{1}{2}$.
- (l) Compute the cost to the buyer and the net proceeds to the seller of 100 shares of common stock (par \$100) bought at 83.
- (m) Compute the value of a right on February 15 and on March 27 from the following data: announcement date, February 1; record date for right, February 19; expiration date for right, March 31; five old shares needed for one new share; subscription price, \$70; market price of old stock, \$92 on February 15 and \$85 on March 27.
- (n) Determine the net yield to maturity on a 3 $\frac{1}{2}$ per cent bond maturing in 23 years and 5 months and purchased at 103, on the basis of the following data taken from a bond yield table:

| <i>Maturity</i> | <i>Price</i> | <i>Yield</i> |
|------------------------|--------------|--------------|
| 23 years | 103.21 | 3.30 |
| | 101.99 | 3.375 |
| 23 $\frac{1}{2}$ years | 103.25 | 3.30 |
| | 102.02 | 3.375 |

CHAPTER SEVEN

NEW SECURITY ISSUES

Federal Securities Act, 1933. The Securities Act of 1933 brought the regulation of securities issued in interstate commerce under the control of the federal government. The primary purpose of the Act was "to provide full and fair disclosure of the character of securities sold in interstate and foreign commerce and through the mails and to prevent frauds in the sale thereof. . . ." The law requires the registration of a new security issue with the Securities and Exchange Commission prior to the public offering of the issue. A "public offering" refers to securities publicly offered by an issuer or sold by an issuer through underwriters or dealers. Certain classes of domestic securities are exempt from the registration requirement: (a) United States Government obligations, (b) territorial bonds, (c) federal instrumentalities such as Federal Land Bank bonds, (d) state and municipal bonds, (e) railroad securities, (f) receiver's certificates, (g) certain issues not exceeding \$300,000 at the option of the Commission and (h) securities of Savings and Loan Associations. Brokerage orders for new securities are also exempt when executed upon unsolicited customers' orders.

Registration. A registration statement and copies of all prospectuses to be used must be filed with the Commission before any non-exempt security may be publicly offered for sale. The registration statement requires specific information on many designated points, among which are the following: (a) the purpose of the issue, (b) the price at which the issue is to be offered to the public, (c) the price at which the issue is to be offered to any special group, (d) disclosure of any purchase option agreements, (e) promotion fees, (f) underwriting profit, (g) net proceeds to the company, (h) remuneration of any officers receiving over \$20,000 annually, (i) detailed capitalization statement, (j) detailed balance sheet,

(k) detailed earnings statement for three preceding years, (l) names and addresses of officers, directors, and underwriters, (m) names and addresses of stockholders owning more than 10 per cent of any class of stock, (n) a copy of the underwriting agreement, (o) a copy of legal opinions, (p) a copy of articles of incorporation or association, and (q) copies of indentures affecting new issues.¹

Examination. The registration statement is subject to examination by the Commission. It is not the function of the Commission, however, to pass upon the economic desirability nor upon the investment quality of the issue. The Commission's chief function is to see to it that the requirements of the Act are fulfilled. It is empowered, however, to prescribe the forms in which the financial information is to be submitted, that is, the items to be shown and the methods to be followed in the preparation of accounts in the appraisal of assets and liabilities, in the determination of depreciation and depletion, and in the differentiation between charges to capital account and to operating expenses.

The examination of the registration statement by the Commission may result in either (a) a deficiency statement, (b) a stop order, or (c) no action at all. Where examination of the registration statement discloses deficiencies but at the same time reveals an honest attempt to meet the specified requirements, the Commission sends the registrant a so-called deficiency letter. The letter is usually sent within approximately ten days after the original filing date, which affords the registrant an opportunity to correct the statement by amendment before the indicated effective date and before the securities are offered for sale.² If, on the other hand, examination of the registration statement shows that it includes untrue statements or omissions of material facts that reflect intentional or reckless disregard of the standard of fair disclosure prescribed by the Act, stop-order proceedings usually are

¹ The public offering price and the names of the principal underwriters are usually provided later by amendments to the registration statement.

² Section 8 (b): "If it appears to the Commission that a registration statement is on its face incomplete or inaccurate in any material respect, the Commission may, after notice by personal service or the sending of confirmed telegraphic notice not later than ten days after the filing of the registration statement, and opportunity for hearing (at a time fixed by the Commission) within ten days after such notice by personal service or the sending of such telegraphic notice, issue an order prior to the effective date of registration refusing to permit such statement to become effective until it has been amended in accordance with such order the Commission shall so declare and the registration shall become effective at the time provided in subsection (a) or upon the date of such declaration, whichever date is the later."

instituted immediately. For example, the Commission, having a reasonable cause to believe that the registration statement filed by one company included "untrue statements of material facts" and failed "to state material facts," instituted stop-order proceedings pursuant to the Act and scheduled a hearing.³

The information contained in the registration statement must be kept reasonably current pending the complete distribution of the registered issue. The balance sheet, with certain exceptions, may be as of six months prior to the date of filing the registration statement. The profit and loss statement must be for the latest fiscal year and for the two preceding fiscal years. If the date of filing of the registration statement is more than six months after the close of the last fiscal year, the issuer must append a supplementary statement from such closing date to the latest practicable date. The information contained in or filed with the registration statement must be available to the public "under such regulations as the Commission may prescribe, and copies thereof, photostatic or otherwise," must be provided to any applicant "at such reasonable charge as the Commission may prescribe."

The acceptance of a registration statement by the Commission does not imply an endorsement or approval of the security or the issuer by the Commission. The Commission takes positive action only in the form of a deficiency notice or a stop order, thus suspending the registration. Inaction simply means that the Commission has found no reason for suspending the registration, in which case the registration becomes effective on the effective date. Commission regulations (Rule 825) require the following statements to be made in prominent type on the front cover of every prospectus:

These securities have not been approved or disapproved by the Securities and Exchange Commission.

ABC Corporation has registered the securities by filing certain information with the Commission. The Commission has not passed on the merits of any securities registered with it.

It is a criminal offense to represent that the Commission has approved these securities or has made any finding that the statements in this Prospectus or in the Registration Statement are correct.

Prospectus. A prospectus must be delivered to all purchasers of registered securities. The term "prospectus" is applied to any notice, circular, advertisement, or letter, written or broadcast, that

³The Commission may suspend registration even after a registration statement becomes effective where it develops that the information provided therein is untrue or misleading in any material respect

offers a security for sale. Since the offering is based upon the registration statement, the information contained in the prospectus must coincide with that in the registration statement, with the omission of certain technical features, as stated in the law and as determined by the Commission. The prospectus contains the following statement:

A Registration Statement (Form S-1) with respect to the securities referred to on the cover of the Prospectus has been filed with the Securities and Exchange Commission, under the Federal Securities Act of 1933, as amended, and copies thereof may be procured from the Commission by payment of the fee prescribed by the Rules and Regulations of the Commission. This Prospectus does not contain all the information set forth in the Registration Statement, certain items of which are omitted or included in condensed or summarized form in accordance with the Rules and Regulations of the Commission. For further information with respect to said securities and ABC Company, reference is made to the Registration Statement and the Financial Statement, notes and schedules, and Exhibits filed therewith.

The purpose of registration is twofold: (a) it enables the Commission to prevent the public sale of the issue, if such action is found desirable for any reason in the public interest; and (b) a record of the representations made by the issuer is thus preserved so that false or misleading statements or omissions of material facts can be readily proved and the buyer protected.

Civil liabilities. If the registration statement or prospectus contains any untrue statement of a material fact or omits any material fact, any purchaser who is unaware of the situation at the time of purchase may take legal action for recovery of loss. The persons liable are (a) those who signed the registration statement, (b) all directors of the issuing corporation, (c) accountants, engineers, or other professional experts who helped to prepare or who certified any part of the registration statement, and (d) the underwriters.⁴

The purchaser may bring suit to recover from any or all persons liable and may recover the difference between the amount paid for the security, not exceeding the public offering price, and either (a) the value of the security at the time the suit was brought or (b) the price at which the security had been subsequently disposed

⁴Originally insurance companies, investment trusts, and other large purchasers refrained from taking some or all of the undistributed portion of a security issue for investment at reduced prices for fear of being classified as underwriters under the Act and thereby subject to civil liabilities. In 1938, however, the Commission adopted a rule that made possible the elimination of civil liabilities of subunderwriters under the Act.

of in the market. Such a suit must be brought within one year after (a) the discovery of the untrue statement or omission or (b) such discovery should have been made by the exercise of reasonable diligence on the part of the buyer. In no event, however, can such action be brought later than three years after the effective date of the registration statement.

Individuals other than the issuer may escape this liability if the misstatement or omission occurs in (a) an extract from a public official document, (b) an expert report, or (c) some other source in the accuracy of which there were reasonable grounds to believe. The standard of what constitutes a "reasonable ground for belief" is "that required of a prudent man in the management of his own property." In such a recovery suit a defendant can reduce his liability if he can prove that part or all of the damages for which recovery is sought were not caused by the misstatement or omission. In any event, each underwriter's liability is limited to a maximum amount of damages not in excess of the total price at which the securities underwritten by him are offered for sale to the public.⁵ To discourage the filing of unjustified suits, it is provided that the trial court can charge all court costs to the litigant losing the case.

Function of investment banking. Issuers of new securities face the problem of placing the securities with investors. It is the chief function of an investment banking house to assist the issuer in the distribution of new issues. The investment banker is a middleman who sets up the machinery whereby demand for capital (issuers) and supply of capital (investors) are brought together. Like the merchant, the investment banker places his own capital in long-term new securities not for investment but for resale at a profit. The capital invested in the securities purchased must be released through the resale of the securities before additional securities may be purchased.

Classification of investment banking houses. Investment banking houses may be classified according to (a) field of activity, (b) nature of business, and (c) form of organization. Some houses, such as Halsey, Stuart & Company, and The First Boston Corporation, do a nationwide business with offices in many of the principal cities, whereas some of the very largest, such as Morgan Stanley & Company and Kuhn, Loeb & Company, have no out-of-town offices.

⁵ Any provision in a contract waiving those protections in the law are specifically stated to be void.

Investment banking firms may be divided into three groups according to the nature of the business. A small number of firms, probably not more than six in the entire country, specialize in originating and wholesaling security issues. They originate issues, form syndicates, underwrite, and sell largely at wholesale to dealers. Typical of this type of firm are Morgan Stanley & Company and Kuhn, Loeb & Company. A much larger number of houses originate security issues, underwrite, wholesale, and retail. They form syndicates for their own originations and also participate in syndicates formed by other houses. They have well-organized retail sales departments that sell directly to investors. Typical of this group are The First Boston Corporation, Brown, Harriman & Company, Lee, Higginson Corporation, and Halsey, Stuart & Company. A still larger group consists of firms that serve local areas and whose function is primarily retail selling. Their financial strength is not adequate to permit them to originate new issues or even to participate in the flotations of larger houses, but confines them almost entirely to purchasing small blocks of new securities from the larger houses on a wholesale basis and then distributing those securities to their customers at a small profit margin.

Investment banking firms are either partnerships or corporations. Morgan Stanley & Company was an incorporated company engaged almost exclusively as a wholesale underwriting house until 1941, when it became a partnership and expanded the scope of its activities. Firms organized as partnerships include Lehman Brothers, Kuhn, Loeb & Company, and Smith, Barney & Company; those organized as corporations include A. G. Becker & Company, The First Boston Corporation, and Lee, Higginson Corporation.

Functions of investment banking houses. The internal organization of an investment banking firm depends chiefly upon the size of the house. The larger houses, handling a wide variety of issues, are more departmentalized than the smaller firms, which of necessity must combine many activities into a few operating departments. The functions of a house may be divided into four: (a) the buying function—purchasing, through underwriting or otherwise, securities to be offered for resale; the (b) selling function—distributing the securities either at wholesale through other dealers or at retail directly to the public; (c) the advisory function—giving professional advice to issuers and buyers of securities; and (d) the protective function—protecting the interest of holders of securities

through the maintenance of secondary markets and by the formation of protective committees in reorganizations.

Placement of new issues. Issuers place new securities in the hands of investors, either through direct sale or through investment banking houses. Direct selling is employed by the federal government in the issue of new obligations to the general public and by corporations in a form called "private placement," in which the securities are sold directly to large investing institutions such as life insurance companies.⁶ For instance, National Cash Register Company sold a \$6,000,000 issue of debenture 2½s privately to the Prudential Insurance Company of America at par and accrued interest, and Peoples Gas, Light & Coke Company sold at par a \$20,000,000 issue of first and refunding mortgage 3s, series G, to eight life insurance companies: \$5,000,000 to Metropolitan Life, \$4,000,000 each to Prudential and Equitable Life, \$3,000,000 to Mutual Life, and \$1,000,000 each to John Hancock Mutual Life, Northwestern Mutual Life, Massachusetts Mutual Life, and Penn Mutual Life. An investment banking house may act as an agent for the corporation in the private placement of a bond issue. The \$13,855,000 Washington Gas Light Company 3½s of 1970 were placed privately with certain institutions who purchased them for investment. A total of \$12,930,000 was placed by The First Boston Corporation; the company, itself, sold the remaining \$925,000.

Private placement of securities by a corporation has the advantage to the issuer of a saving in the time, labor, and expense involved in the registration of a new issue for public sale and in the elimination of the investment banker's underwriting profit. Such issues are exempt from registration on the theory that large institutional investors are equipped to appraise a security and therefore do not need the protection allegedly afforded to the small investors through registration. On the other hand, such placements are not eligible for resale to the public at a later date unless the proper registration procedure is completed. Private placement, however, denies the investing public the opportunity of participating in the better quality of new issues that are thus preempted by a relatively few large institutions. This is especially true of bonds called for redemption under a refunding operation and redeemed out of the proceeds of a new issue privately placed. The bondholder is not

⁶ For a discussion of private placements see E. Raymond Corey, *Direct Placement of Corporate Securities*, Division of Research, Graduate School of Business Administration, Harvard University, Boston, 1951.

only required to relinquish the redeemed bond but also is denied the opportunity of purchasing the new bond.

On the other hand, a public offering of a corporate issue is placed through investment banking firms and is bought by those firms either through competitive bidding or by private negotiation.

Competitive bidding. An investment banking group buys an issue for the purpose of reselling it at a gross profit sufficient to cover the expenses and yield a net profit.⁷ It buys the issue at one price in the expectation of selling it at a higher price. The difference between the price actually paid to the issuer for the securities and the public offering price is called the underwriters' "spread." For example, a \$40,000,000 issue of New England Telephone & Telegraph Company 3 per cent debentures was purchased by the underwriting group at 100.8091 and offered to the public at 101.625, which represented a spread of \$8.159 per \$1,000 bond (\$1,016.25 — \$1,008.091).

The price which the underwriting group can afford to bid for the issue is determined by two factors: (a) the price at which it expects to resell the issue, and (b) the minimum gross profit margin under which it can afford to bid. The price at which it expects to resell the issue is influenced largely by the price at which comparable issues are currently selling in the market. The gross profit margin is influenced by the ease or difficulty in marketing the issue and is affected by such factors as the nature of the issue (bond or stock), the nature of the issuer (railroad, public utility, industrial, or municipal), the current popularity of similar issues, the size of the issue, and the condition of the securities market.

Assume, for example, that an underwriting group plans to bid on a \$40,000,000 first mortgage thirty-year 2 per cent bond issue and that comparable bonds are selling to yield 1.75 per cent. Reference to the bond yield table shows that in order for the new issue to sell to yield 1.75 per cent, it would have to sell at 105.82. If the minimum gross profit margin for the underwriters is $\frac{3}{4}$ of 1 per cent, the maximum price which they could afford to bid for the issue would be 105.07 per cent.

| | % | <i>Per Bond</i> | <i>Aggregate</i> |
|--------------------------|--------|-----------------|------------------|
| Price to public..... | 105.82 | \$1,058.20 | \$42,328,000 |
| Gross profit margin..... | .75 | 7.50 | 300,000 |
| Net bid price..... | 105.07 | \$1,050.70 | \$42,028,000 |

⁷ See Appendix E for "Invitation for Bids on Sale of Securities," page 514.

Assume, on the other hand, that the issue involved is the following \$8,500,000 serial issue:

| <i>Amount</i> | <i>Rate</i> | <i>Maturity</i> | <i>Yield</i> |
|---------------|-------------|-----------------|--------------|
| \$ 250,000 | 2½% | 2 years | .70% |
| 250,000 | 2½ | 3 | .80 |
| 500,000 | 2½ | 4 | .90 |
| 500,000 | 1¼ | 5 | 1.00 |
| 500,000 | 1¼ | 6 | 1.10 |
| 1,000,000 | 1¼ | 7 | 1.20 |
| 1,750,000 | 1¼ | 8 | 1.25 |
| 1,750,000 | 1¼ | 9 | 1.30 |
| 1,000,000 | 1¼ | 10 | 1.35 |
| 1,000,000 | 1½ | 10 | 1.35 |

Under these conditions \$250,000 of the bonds bearing a coupon rate of 2½ per cent will mature in two years. Comparable issues are now selling to yield .70 per cent. Another \$250,000 of the bonds bearing the same coupon rate will mature in three years and comparable issues are now selling to yield .80 per cent. Assume further that the required gross profit margin is .693 per cent. The calculation of the bid price is as follows:

| <i>Maturity</i> | <i>Principal</i> | <i>Rate</i> | <i>Yield</i> | <i>Price</i> | <i>Total Price</i> |
|-----------------|--------------------|-------------|--------------|--------------|--------------------|
| 2 years | \$ 250,000 | 2½% | .70% | 103.57 | \$ 258,925 |
| 3 | 250,000 | 2½ | .80 | 105.03 | 262,575 |
| 4 | 500,000 | 2½ | .90 | 106.27 | 531,350 |
| 5 | 500,000 | 1¼ | 1.00 | 101.22 | 506,100 |
| 6 | 500,000 | 1¼ | 1.10 | 100.87 | 504,350 |
| 7 | 1,000,000 | 1¼ | 1.20 | 100.33 | 1,003,300 |
| 8 | 1,750,000 | 1¼ | 1.25 | 100.00 | 1,750,000 |
| 9 | 1,750,000 | 1¼ | 1.30 | 99.58 | 1,742,650 |
| 10 | 1,000,000 | 1¼ | 1.35 | 99.07 | 990,700 |
| 10 | 1,000,000 | 1½ | 1.35 | 101.40 | 1,014,000 |
| | <u>\$8 500,000</u> | | | | <u>\$8,563,950</u> |
| | (A) | | | | (B) |

If the 2½ per cent bonds maturing in two years will have to yield .70 per cent, then (according to the bond yield table) they would have to be priced at 103.57 per bond or \$258,925 for the \$250,000 principal value. In like manner, if the 2½ per cent bonds maturing in three years will have to sell to yield .80 per cent they would have to be priced at 105.03 per bond or \$262,575 for the \$250,000 principal value. In order for the \$8,500,000 issue to sell at the respective yields for the respective coupon rates and maturities, the entire issue would have to be priced at \$8,563,950 or at a price of 100.752 per cent of the \$8,500,000 principal value.

Total price (B) / total principal value (A) = 100.752 per cent.

Since the gross profit margin is .693 per cent, the maximum bid is 100.059 per cent.

| | |
|-------------------------------------|------------------|
| Average sales price | 100.752 per cent |
| Less: gross profit margin..... | .693 per cent |
| Net bid price for entire issue..... | 100.059 per cent |

Underwriters sometimes encounter difficulty in determining the public offering price at which a new issue can be sold successfully. If the public offering price proves to be higher than the investing public will pay, the issue is said to be "overpriced" and it becomes necessary to reduce the public offering price. A \$75,000,000 issue of 2.875 per cent first and refunding mortgage bonds was awarded by Pacific Gas & Electric Co. at 99.55 to a group headed by Blyth & Co., Inc. The bonds were reoffered to the public the next day at par. Less than \$15,000,000 of the issue was reported placed in first-day sales and because of the indifference of major institutional investors to the issue at the offered yield basis of 2.875 per cent, the underwriting group terminated the price maintenance agreement. Trading in the bonds then ranged between $98\frac{1}{2}$ and $98\frac{3}{4}$, or approximately a 2.95 per cent yield basis, at which prices they attracted considerable buying from life insurance companies.

Although the cutting of prices for overpriced issues is an old practice, the reduction in price usually has followed the public offering. At times during recent years, however, underwriters have been compelled to reprice issues before the public offering. Louisiana Power & Light Co., for example, offered \$10,000,000 first mortgage bonds at competitive bidding. A group headed by Halsey Stuart & Co., Inc., in preparing its bid, planned on a public price of $100\frac{7}{8}$ or \$1,008.75 per bond to yield 3.08 per cent. It submitted a bid of 100.2912 or \$1,002.912 for a $3\frac{1}{8}$ per cent coupon. This price provided a margin of \$5.838 per bond (\$1,008.75 — \$1,002.912). The group won the issue but, before the public offering, market conditions changed and made it necessary to reduce the offering price to 100.485 or \$1,004.85 in order to raise the yield to 3.11 per cent.

Cost of bonds. Issues upon which competitive bids are invited are usually awarded to the bidder whose bid represents the lowest net cost to the issuer.

Three factors enter into the determination of the cost: bid price, coupon rate, and maturity. In general, the bid price may be at par, at a premium, or at a discount, and for an issue with one maturity or with serial maturities. A serial issue, in turn, may carry one coupon rate or varying coupon rates. There are two general

methods of computing the cost of bonds in connection with competitive bidding: (a) the interest cost method, which is used most commonly in municipal bond and equipment trust issues, and (b) the effective semiannual rate of interest method, which is generally used in offerings of utility bonds and in some railroad bonds.

Interest cost method. The following computations are based upon the interest cost method.

Premium bid. The Pennsylvania Turnpike Commission invited bids on a \$46,000,000 issue of thirty-year refunding bonds. The Commission received three separate bids, each specifying a price and a coupon rate. One group named a price of 100.9399 for a 2½ per cent coupon; a second group named a price of 100.70 for a 2.60 per cent coupon; and a third group offered 100.15 for a 2.60 per cent coupon.

The steps in the determination of the net interest cost are as follows:

- (1) Determine the number of bond-years: This \$46,000,000 issue represents 46,000 bonds of \$1,000 principal value, each with a life of thirty years or a total of 1,380,000 bond-years (46,000 bonds \times 30 years). So far as the amount of interest to be paid by the issuer is concerned, this issue of \$46,000,000 of thirty-year bonds is equivalent to \$1,380,000,000 of one-year bonds.
- (2) Determine the total interest to be paid out during the life of the issue: the first group bid on the basis of a 2½ per cent coupon. Since the issue is equivalent to \$1,380,000,000 of one-year bonds, the total interest at the annual rate of 2½ per cent is \$34,500,000 (1,380,000 bond-years \times \$25).
- (3) Determine the total premium: the first group bid a price of 100.9399 for the issue or 100.9399 per cent of principal value. At a bid price of 100.9399, the price per \$1,000 bond is \$1,009.399 or a premium of \$9.399 per \$1,000 bond. A premium of \$9.399 per \$1,000 principal value represents a total premium for the \$46,000,000 issue of \$432,354:

$$46,000 \text{ ($1,000 bonds)} \times \$9.399 = \$432,354 \text{ total premium}$$

- (4) Determine the net interest cost in dollars: the total interest which the issuer will have to pay on the issue is \$34,500,000 as determined in (2), but inasmuch as the issuer will obtain the use of \$1,009.399 per bond and be obliged to repay only \$1,000 per bond, the premium reduces the interest cost to the issuer by \$9.399 per bond or by \$432,354 for the entire issue, yielding a net interest cost of \$34,067,646:

| | |
|--------------------------|---------------------|
| Total interest. . . . | \$34,500,000 |
| Total premium. | 432,354 |
| Net interest cost. . . . | <u>\$34,067,646</u> |

- (5) Determine the net interest cost rate: the net interest cost of \$34,067,646 on 1,380,000 bond-years is at the rate of \$24.6867 per bond or at the rate of 2.46867 per cent:

$$\begin{aligned}\text{Net interest cost/total bond-years} &= \text{Net interest cost per \$1,000 bond} \\ \$34,067,646/1,380,000 &= \$24.6867 \text{ per \$1,000 bond} \\ \$24.6867/\$1,000 &= 2.46867 \text{ per cent net interest cost rate}\end{aligned}$$

The calculation of the net interest cost on the basis of the second group's bid is as follows:

- (2) Total interest: $1,380,000 \times \$26 = \$35,880,000$
 (3) Total premium: $46,000 \times \$7 = 322,000$
 (4) Net interest cost $\$35,558,000$
 (5) Net interest cost rate: $\$35,558,000/1,380,000 = \25.7667 per \$1,000 bond
 $\$25.7667/\$1,000 = 2.57667$ per cent net interest cost rate

The calculation of the net interest cost on the basis of the third group's bid is as follows:

- (2) Total interest: $1,380,000 \times \$26 = \$35,880,000$
 (3) Total premium: $46,000 \times \$1.50 = 69,000$
 (4) Net interest cost $\$35,811,000$
 (5) Net interest cost rate: $\$35,811,000/1,380,000 = \25.95 per \$1,000 bond
 $\$25.95/\$1,000 = 2.595$ per cent net interest cost rate

The issue was awarded to the first group since their bid represented a net interest cost of 2.46867 per cent compared to 2.57667 per cent for the second group and 2.595 per cent for the third group.

Discount bid. The Southern Pacific Company awarded an issue of \$22,500,000 of San Francisco Terminal first mortgage Series A, 3⅜ per cent bonds due in twenty-eight years to a group on a bid of 99.30. The net interest cost to the issuer was 3.4 per cent computed as follows:

- (1) Total bond years: this \$22,500,000 issue represented 22,500 bonds of \$1,000 principal value, each with a life of 28 years or a total of 630,000 bond-years:

$$22,500 \text{ bonds} \times 28 \text{ years} = 630,000 \text{ bond-years}$$

- (2) Total interest: since the issue is equivalent to \$630,000,000 of one-year bonds, the total interest at the annual rate of 3⅜ per cent is \$21,262,500:

$$630,000 \text{ bond-years} \times \$33.75 = \$21,262,500 \text{ total interest}$$

- (3) Total discount: the group bid 99.30 or 99.3 per cent of principal value. At a bid price of 99.30, the price per \$1,000 bond

is \$993 or a discount of \$7 per \$1,000 bond. A discount of \$7 per \$1,000 principal value represents a total discount for the \$22,500,000 issue of \$157,500:

$$22,500 \text{ bonds} \times \$7 = \$157,500 \text{ total discount}$$

- (4) Net interest cost: the total interest which the issuer will have to pay on the issue is \$21,262,500 as determined in (2), but inasmuch as the issuer would obtain the use of only \$993 per bond and be obliged to repay \$1,000 per bond, the discount increases the interest cost to the issuer by \$7 per bond or by \$157,500 for the entire issue, involving an interest cost of \$21,420,000:

| | |
|------------------------|---------------------|
| Total interest..... | \$21,262,500 |
| Total discount | 157,500 |
| Net interest cost..... | <u>\$21,420,000</u> |

- (5) Net interest cost rate: the net interest cost of \$21,420,000 on 630,000 bond-years is at the rate of \$34 per bond or at the rate of 3.4 per cent:

$$\begin{aligned} \$21,420,000/630,000 &= \$34.00 \text{ net interest cost per bond} \\ \$34.00/\$1,000 &= 3.4 \text{ per cent net interest cost rate} \end{aligned}$$

Serial maturities. A serial issue may carry one interest rate or varying interest rates. The Missouri Pacific Railroad awarded a \$8,700,000 issue of equipment trust certificates, \$870,000 maturing each May 15 over a ten-year period, to a group on a bid of 99.161 for a $1\frac{7}{8}$ per cent coupon. The net interest cost to the issuer was 2.0275 per cent computed as follows:

- (1) Total bond-years: this \$8,700,000 issue represented 8,700 bonds of which 870 bonds mature each year over a period of ten years or a total of 47,850 bond years:

| | |
|--------------------------|-------|
| 870 × 1 | 870 |
| 870 × 2 | 1,740 |
| 870 × 3 | 2,610 |
| 870 × 4 | 3,480 |
| 870 × 5 | 4,350 |
| 870 × 6 | 5,220 |
| 870 × 7 | 6,090 |
| 870 × 8 | 6,960 |
| 870 × 9 | 7,830 |
| 870 × 10 | 8,700 |
| <u>47,850 bond-years</u> | |

- (2) Total interest: since the issue is equivalent to \$47,850,000 of one-year bonds, the total interest at the annual rate of $1\frac{7}{8}$ per cent is \$897,187.50:

$$47,850 \text{ bond-years} \times \$18.75 = \$897,187.50 \text{ total interest}$$

- (3) Total discount: the group bid 99.161 or 99.161 per cent of principal value. At a bid price of 99.161, the price per bond is \$991.61 or a discount of \$8.39 per \$1,000 bond. A discount of \$8.39 per \$1,000 principal value represents a total discount for the \$8,700,000 issue of \$72,993:

$$8,700 \text{ bonds} \times \$8.39 = \$72,993 \text{ total discount}$$

- (4) Net interest cost: the total interest that the issuer will have to pay on the issue is \$897,187.50 as determined in (2), but inasmuch as the issuer would obtain the use of only \$991.61 per bond and be obliged to repay \$1,000 per bond, the discount increases the interest cost to the issuer by \$8.39 per bond or by \$72,993 for the entire issue, involving an interest cost of \$970,180.50:

| | |
|------------------------|---------------------|
| Total interest..... | \$897,187.50 |
| Total discount.... | 72,993.00 |
| Net interest cost..... | <u>\$970,180.50</u> |

- (5) Net interest cost rate: the net interest cost of \$970,180.50 on 47,850 bond-years is at the rate of \$20.275 per bond or at the rate of 2.0275 per cent:

$$\begin{aligned} \$970,180.50/47,850 &= \$20.275 \text{ net interest cost per bond} \\ \$20.275/\$1,000 &= 2.0275 \text{ per cent net interest cost rate} \end{aligned}$$

On the other hand, the City of Shreveport, Louisiana, offered \$9,600,000 of various purpose bonds which were purchased by a group at par. The bonds had serial maturities and varying coupon rates as follows:

| <i>Amount</i> | <i>Rate</i> | <i>Due</i> |
|---------------|-----------------|------------|
| \$395,000 | 2% | 1 year |
| 405,000 | 2 | 2 |
| 410,000 | 2 | 3 |
| 420,000 | 2 | 4 |
| 425,000 | 2 | 5 |
| 435,000 | 2 | 6 |
| 445,000 | 2 | 7 |
| 455,000 | 2 | 8 |
| 465,000 | 2 | 9 |
| 470,000 | 2 | 10 |
| 485,000 | 1 $\frac{3}{4}$ | 11 |
| 490,000 | 1 $\frac{3}{4}$ | 12 |
| 500,000 | 1 $\frac{3}{4}$ | 13 |
| 510,000 | 2 | 14 |
| 520,000 | 2 | 15 |
| 535,000 | 2 | 16 |
| 545,000 | 2 | 17 |
| 550,000 | 2 | 18 |
| 565,000 | 2 | 19 |
| 575,000 | 2 | 20 |

The bid of par for the entire issue represented a net interest cost to the issuer of 1.9586 per cent calculated as follows:

- (1) Total bond-years: this \$9,600,000 issue represented 9,600 bonds of which varying amounts mature each year over a period of twenty years, or a total of 107,105 bond-years:

2 per cent maturities:

| | |
|----------|--------------------------|
| 395 × 1 | 395 |
| 405 × 2 | 810 |
| 410 × 3 | 1,230 |
| 420 × 4 | 1,680 |
| 425 × 5 | 2,125 |
| 435 × 6 | 2,610 |
| 445 × 7 | 3,115 |
| 455 × 8 | 3,640 |
| 465 × 9 | 4,185 |
| 470 × 10 | 4,700 |
| 510 × 14 | 7,140 |
| 520 × 15 | 7,800 |
| 535 × 16 | 8,560 |
| 545 × 17 | 9,265 |
| 550 × 18 | 9,900 |
| 565 × 19 | 10,735 |
| 575 × 20 | 11,500 |
| | <u>89,390 bond-years</u> |

1¾ per cent maturities:

| | |
|----------|---------------|
| 485 × 11 | 5,335 |
| 490 × 12 | 5,880 |
| 500 × 13 | 6,500 |
| | <u>17,715</u> |

| | |
|------------------------|----------------|
| 2 per cent maturities | 89,390 |
| 1¾ per cent maturities | <u>17,715</u> |
| bond-years | <u>107,105</u> |

- (2) Total interest: the issue is equivalent to \$89,390,000 of one-year 2 per cent bonds and \$17,715,000 of one-year 1¾ per cent bonds or a total interest of \$2,097,812.50:

| | |
|-------------------------------------|-----------------------|
| 2 per cent bonds: 89,390 × \$20 | \$1,787,800.00 |
| 1¾ per cent bonds: 17,715 × \$17.50 | <u>310,012.50</u> |
| total interest | <u>\$2,097,812.50</u> |

- (3) Net interest cost rate: since the group bid par for the bonds, there is neither premium nor discount to consider. The total interest cost to the issuer consists solely of the interest on the principal or \$2,097,812.50. The interest cost of \$2,097,812.50 on 107,105 bond-years is at the rate of \$19.586 per bond or at the rate of 1.9586 per cent:

$$\begin{aligned} \$2,097,812.50 / 107,105 &= \$19.586 \text{ net interest cost per bond} \\ \$19.586 / \$1,000 &= 1.9586 \text{ per cent net interest cost rate} \end{aligned}$$

At the same time, the City of Midland, Michigan, awarded a \$1,-600,000 issue of storm sewer bonds to a group on a bid of 100.026. The bonds had serial maturities and varying coupon rates as follows:

| <i>Amount</i> | <i>Rate</i> | <i>Due</i> |
|---------------|-----------------|------------|
| \$40,000 | 2% | 1 year |
| 40,000 | 2 | 2 |
| 40,000 | 2 | 3 |
| 45,000 | 2 | 4 |
| 45,000 | 2 | 5 |
| 45,000 | 2 | 6 |
| 45,000 | 2 | 7 |
| 50,000 | 2 | 8 |
| 50,000 | 2 | 9 |
| 50,000 | 2 | 10 |
| 50,000 | 2 | 11 |
| 50,000 | 2 | 12 |
| 55,000 | 2 | 13 |
| 55,000 | 2 | 14 |
| 55,000 | 2 | 15 |
| 55,000 | 2 | 16 |
| 55,000 | 1 $\frac{3}{4}$ | 17 |
| 55,000 | 1 $\frac{3}{4}$ | 18 |
| 60,000 | 1 $\frac{3}{4}$ | 19 |
| 60,000 | 1 $\frac{3}{4}$ | 20 |
| 60,000 | 1 $\frac{3}{4}$ | 21 |
| 60,000 | 1 $\frac{3}{4}$ | 22 |
| 60,000 | 1 $\frac{3}{4}$ | 23 |
| 70,000 | 1 $\frac{3}{4}$ | 24 |
| 70,000 | 1 $\frac{3}{4}$ | 25 |
| 70,000 | 1 $\frac{3}{4}$ | 26 |
| 70,000 | 2 | 27 |
| 70,000 | 2 | 28 |
| 70,000 | 2 | 29 |

The bid of 100.026 represented a net interest cost to the issuer of 1.87025 per cent calculated as follows:

- (1) Total bond-years: this \$1,600,000 issue represented 1,600 bonds of which varying amounts mature each year over a period of twenty-nine years or a total of 26,275 bond-years:

2 per cent maturities:

| | |
|--------|-----|
| 40 × 1 | 40 |
| 40 × 2 | 80 |
| 40 × 3 | 120 |
| 45 × 4 | 180 |
| 45 × 5 | 225 |
| 45 × 6 | 270 |
| 45 × 7 | 315 |
| 50 × 8 | 400 |
| 50 × 9 | 450 |

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| | |
|-------------------|-------|
| 50 × 10 | 500 |
| 50 × 11 | 550 |
| 50 × 12 | 600 |
| 55 × 13 | 715 |
| 55 × 14 | 770 |
| 55 × 15 | 825 |
| 55 × 16 | 880 |
| 70 × 27 | 1,890 |
| 70 × 28 | 1,960 |
| 70 × 29 | 2,030 |
| <hr/> | |
| 12,800 bond-years | |

1½ per cent maturities:

| | |
|-------------------|-------|
| 55 × 17 | 935 |
| 55 × 18 | 990 |
| 60 × 19 | 1,140 |
| 60 × 20 | 1,200 |
| 60 × 21 | 1,260 |
| 60 × 22 | 1,320 |
| 60 × 23 | 1,380 |
| 70 × 24 | 1,680 |
| 70 × 25 | 1,750 |
| 70 × 26 | 1,820 |
| <hr/> | |
| 13,475 bond-years | |

2 per cent maturities 12,800

1½ per cent maturities 13,475

Total bond-years 26,275

- (2) Total interest: the issue is equivalent to \$12,800,000 of one-year 2 per cent bonds and \$13,475,000 of one-year 1¾ per cent bonds or a total interest of \$491,812.50:

| | |
|---------------------------------------|--------------|
| 12,800 bond-years × \$20 | \$256,000.00 |
| 13,475 bond-years × \$17.50 | 235,812.50 |
| <hr/> | |
| \$491,812.50 total interest | |

- (3) Total premium: at a bid price of 100.026 the price per bond is \$1,000.26 or a premium of \$0.26 per \$1,000 bond. A premium of \$0.26 per \$1,000 principal value represents a total premium for the \$1,600,000 issue of \$416:

$$1,600 \text{ bonds} \times \$0.26 = \$416 \text{ total premium}$$

- (4) Net interest cost: the total interest of \$491,812.50 is reduced by the premium of \$416 received on the bid, thus reducing the net interest cost to \$491,396.50:

| | |
|--------------------------------|--------------|
| Total interest | \$491,812.50 |
| Total premium | 416.00 |
| <hr/> | |
| \$491,396.50 net interest cost | |

- (5) Net interest cost rate: the interest cost of \$491,396.50 on the basis of 26,275 bond-years is at the rate of \$18.7025 per bond or 1.87025 per cent:

$$\$491,396.50/26,275 = \$18.7025 \text{ net interest cost per bond}$$

$$\$18.7025/\$1,000 = 1.87025 \text{ per cent net interest cost rate}$$

There has been very little objection to the interest cost method because in nearly all cases it has been used in a manner which has assured the proper award of the bonds. It is deficient, however, in that it does not give any consideration to the date at which either interest coupons or premiums are payable. For example, assume that on a serial issue, one bidder specified a 6 per cent coupon rate for the first maturity and a 2 per cent coupon rate for the later maturity, while another bidder specified a 2 per cent coupon rate for the first maturity and a 6 per cent rate for the later maturity. The interest cost method would produce the same result in both cases. In reality, however, the high coupon rate on the first maturity, as specified by the first bidder, would result in the payment by the issuer of more money sooner and consequently would represent a greater cost.

It is possible for a low interest cost, expressed in percentage terms, to be a high interest cost when translated into dollars. The explanation lies in the way interest coupons are related to serial maturities and the effect upon the average life of the issue. When the New York City Housing Authority offered a \$50,300,000 serial issue at competitive bidding it received two bids, each of which designated 2.7748 per cent as the average interest rate or net interest cost. Because of the variation in interest coupons and their relation to varying schedules of maturities, the interest cost of the Lehman Bros. and Blyth & Co., Inc. bid, expressed in dollars, came to \$43,506,627 compared with \$44,185,285 under the bid submitted by National City Bank and Chase National Bank group. The difference between the bids in dollar cost—\$678,658—equalled about six months' interest at the average rate of 2.7748 per cent. The Lehman-Blyth bid accomplished the lower dollar cost by designating for the earlier maturities lower interest coupons than the schedule of the National City-Chase group. By using lower interest rates for the early maturities, the Lehman-Blyth group made available money for retiring the bonds faster than the National City-Chase bid would permit.

Effective rate of interest method. A more accurate method of determining the bond cost is the effective semiannual rate of interest which can be determined by the use of ordinary bond tables. For example, the bid of 100.9399 for a $2\frac{1}{2}$ per cent coupon rate on the \$46,000,000 issue of thirty-year bonds offered by the Pennsyl-

vania Turnpike Commission, represented a net interest cost rate of 2.45566 per cent when determined as follows by an ordinary bond table:

| <i>Price</i> | <i>Yield</i> |
|----------------|--------------|
| 101.06..... | 2.45 |
| 100.9399 | |
| 100.00. | 2.50 |

$$\frac{.1201}{1.06} = \frac{X}{.05} \quad X = .00566 \quad 2.45 + .00566 = 2.45566 \text{ per cent}$$

In order, however, to facilitate the ready determination of the effective semiannual rate of interest, it is frequently the custom to have prepared, in advance of the sale, a special table of bond values at yield intervals of .01, which is closer than the yields reported in the ordinary bond tables. Such a special table, for example, would report the following yields and values for a 2½ per cent bond due in 30 years:

| <i>Yield</i> | <i>Value</i> |
|--------------|--------------|
| 2.45..... | 101.057854 |
| 2.46..... | 100.845161 |

Interpolation for a price of 100.9399 bid on the Pennsylvania Turnpike Commission issue would reveal an effective rate of interest of 2.4555 as follows:

| <i>Price</i> | <i>Yield</i> |
|------------------|--------------|
| 101.057854 | 2.45 |
| 100.9399..... | |
| 100.845161..... | 2.46 |

$$\frac{.117954}{.212693} = \frac{X}{.01} \quad X = .0055 \quad 2.45 + .0055 = 2.4555 \text{ per cent}$$

Municipal, railroad, and certain public utility company securities are sold on a competitive basis.⁸

Municipal. Under most state laws, municipal issues must be sold at competitive bidding in accordance with a prescribed procedure.⁹ The proposed offering of a municipal issue involves consideration of the bond and money markets. Since the issue must appeal to dealers in municipal bonds from whom bids are to be received, and to investors to whom the bonds will be offered, the terms of the offering must be in accordance with market conditions. Upon completion of the terms of the offering, the municipality advertises the issue and announces the day, hour, and place at which it will receive proposals for the purchase of the bonds.

⁸See Appendix E for "Invitations for bids on the sale of securities," page 514.

⁹The municipal bond field includes the obligations of states and political subdivisions of states.

While it is customary to receive sealed bids at the vast majority of municipal sales, there are occasions, however, when the municipality receives auction bids. In some instances the municipality gets a better price by selling the bonds at auction because competition among the various bidders forces up the bids. On the other hand, this may not always be true. For example, bidder A may go to a sale at auction with a limit of $104\frac{1}{2}$ for the issue, but if its competitor withdraws after a bid of 103, bidder A may win the issue at 103.01. This price is almost $1\frac{1}{2}$ points under what it was willing to pay, which is also $1\frac{1}{2}$ points less than what the municipality might have received. Usually the announcement either stipulates the maximum coupon rate on which bids will be received or allows the bidders to name the rates.

Generally bids are not received until minutes before the deadline. It is customary for the municipality to require from each bidder a good-faith check ranging in amount from 1 per cent to 5 per cent of the par value of the bonds offered for sale or of the amount bid for them. When the sale is over, the unsuccessful bidders' good-faith checks are returned to them and the successful bidder's check is retained by the municipality until the contract is completed, or it is cashed as liquidated damages in the event the bidder does not fulfill its contract and fails to take up the bonds at the time they are ready for delivery. For small issues, investment banking houses frequently submit individual bids; for medium or large issues, a number of houses usually form a syndicate and enter a bid based on a joint account. The number of houses forming the group depends upon the size of the issue. The syndicate may be formed as a "divided" account or as an "undivided" account. In the former, each underwriter is limited in its liability to the exact amount of its commitment, whereas in the latter each underwriter is liable for its proportionate share of the unsold balance of an issue regardless of the fact that it may have sold its entire commitment. The bidding for a new issue of municipal bonds is keenly competitive and basically is a mathematical calculation. The actual bids placed are seldom in simple fractions; they are usually in involved decimals such as 101.5134. Sometimes the bid is made on an "all or none" basis, which means that the bid is good only for the entire issue. The bonds are awarded according to the best price to the municipality, either on the basis of aggregate combination of partial bids or on the basis of "all or none" bids.

There have been instances where two or more groups of under-

writers have submitted identical bids. In one instance, two groups bid a net interest cost of 1.739856 per cent for a \$5,250,000 issue of sewer and fire department bonds offered by Oklahoma City, Oklahoma. When Oklahoma City advised the respective managers to settle the problem between themselves, it was decided by the groups to combine and split the offering.

Railroad. In 1926 the Interstate Commerce Commission required competitive sale of railroad equipment trust certificates. Later it extended the principle to certain high-grade railroad terminal bonds guaranteed by a number of railroads. In 1944, however, it formally adopted the principle of competitive bidding, with certain exceptions, for all public sales of railroad securities over \$1,000,000. The exceptions included (a) common and preferred stocks, (b) any note or other security maturing in not more than three years, (c) securities issued in exchange for the securities or properties of other railroads, (d) securities sold or otherwise issued to a railroad by any of its subsidiaries when not sold by the parent, (e) securities sold or otherwise issued pro rata to existing holders of securities of the issuing company or in exchange for outstanding obligations in a reorganization or liquidation, and (f) securities specifically exempt by the Interstate Commerce Commission upon application and proper showing that competition should not be required.

The bidding for new railroad issues is sometimes very complicated. For example, the Central Railroad of Pennsylvania offered an issue of certificates to finance the purchase of rolling stock. The investment houses had a choice of bidding on \$3,970,000 of certificates, representing 80 per cent of the cost of the cars, or on \$3,720,000 of certificates, representing 75 per cent of the cost. On either or both of those amounts they could stipulate maturities of one to ten years, or one to fifteen years. The winning bid, submitted by a group headed by Halsey, Stuart & Company, named a price of 99.893 for an 80 per cent loan running up to ten years as 2 per cent certificates; 100.149 for a 75 per cent loan of one to ten years as 2 per cent certificates; and 99.76 for a 75 per cent loan running for one to fifteen years as $2\frac{1}{4}$ per cent certificates. Other syndicates that bid on the issue were Salomon Bros. & Hutzler, and associates, who bid $99\frac{1}{8}$ for an 80 per cent loan running from one to ten years as 2 per cent certificates, and Harris, Hall & Company, and associates, who bid 99.55 for a 75 per cent loan running from one to ten years as $2\frac{1}{4}$ per cent certificates.

The spread between bids for a railroad equipment issue sometimes has been very close. New York, New Haven & Hartford Railroad offered at competitive bidding \$5,955,000 of equipment trust certificates. The winning bid of 98.817 (\$988.17 per \$1,000 certificate) for a $2\frac{1}{4}$ per cent coupon submitted by Salomon Bros. & Hutzler, differed by only one cent per \$1,000 certificate from a bid of 98.816 (\$988.16 per \$1,000 certificate) for a similar coupon received from a group that was led by Halsey, Stuart & Co., Inc.

Public utility. Public utility holding companies were placed under the jurisdiction of the Securities and Exchange Commission by the Public Utility Holding Company Act of 1935. The Commission adopted a rule (U-50) in 1941 which required competitive bidding in the sale of securities by registered public utility holding companies and their electric and gas utility subsidiaries, except in cases where the Commission might grant an exemption. The rule, applicable both to security issues and to the sale by holding companies of portfolio utility securities, prescribes public invitation of sealed bids.¹⁰ The following transactions are specifically exempt: (a) securities sold for less than \$1,000,000; (b) securities issued pro rata to existing security holders pursuant to any preemptive right or privilege or in connection with any liquidation or reorganization; and (c) loans of a maturity of ten years or less, where either the lender is a moneyed institution not purchasing for resale or no finder's fee or other negotiation charge is to be paid to any third party.

Bidding on a public utility issue is usually limited to a few groups.¹¹ For example, five groups competed for a \$18,000,000 issue of Oklahoma Natural Gas Company first mortgage bonds. On the other hand, only two groups bid for an issue of Florida Power and Light Company bonds.

The spread between bids for issues has sometimes been very close. Halsey, Stuart & Company won over a group led jointly by Harri-man, Ripley & Company and Mellon Securities Corporation by less than $2\frac{1}{2}$ cents per \$1,000 bond for an offering of \$30,000,000

¹⁰ Pacific Gas and Electric Company, for example, advertised for bids on March 21, 1945, to be received March 26, 1945, on its proposed offering of \$80,000,000 in new first and refunding mortgage 3s, series M, due December 1, 1979.

¹¹ An investment house that has been retained for a fee to give financial advice to a company on the sale of securities is not permitted by the Commission to participate in bidding for the same securities, since "such financial advisers may have an unfair advantage over other bidders because of earlier and closer association with the transaction." The Interstate Commerce Commission has adopted a similar rule.

Brooklyn Union Gas first $3\frac{1}{2}$ s. The aggregate money difference between the bids was \$720.

Many public utility companies have applied to the Commission for exemption from competitive bidding under Rule U-50. The Commission has been reluctant, however, to grant exemptions on the grounds (a) that the competitive bidding rule was designed to afford, among other things, an orderly and fair method of determining whether the cost of money to the issuer is reasonable, and (b) that there is at least an equal chance that the issuer will obtain a better price by competitive bidding. The Commission usually denies applications for exemption unless, in the opinion of the Commission, special circumstances justify the conclusion that competitive bidding is inappropriate within the provisions of the rule.

Private negotiation. Some corporate securities, especially of industrial companies, are purchased through private negotiation between the investment banking house and the corporation. In all purchases, whether by competitive bidding or by private negotiation, the investment banking firm has three objectives in buying the securities: (a) to resell the securities at a profit, (b) to distribute the securities to the investing public as rapidly as possible in order to minimize the carrying risk assumed by the house, and (c) to have the securities "well placed"—that is, placed in the hands of investors who will hold them for a considerable period of time and not dump them on the market because of nervousness or a desire to realize a small speculative profit.

Buying department. In view of the fact that an issue "well bought is well sold," the initial step is taken by the buying department, whose general function it is to investigate and pass judgment upon all propositions either to originate new security issues or to participate in security issues originated by other houses. The buying department usually takes two preliminary steps: (a) office analysis and (b) plant examination. The office analysis is conducted at the office of the investment banking house and involves an analysis of the financial statements and general history of the issuer for the purpose of determining whether the issuer has shown a satisfactory earnings record over a period of several years. Many proposals fail to meet this requirement and, therefore, do not get beyond this stage. The plant examination is conducted at the place of the issuer, where a searching inquiry into the internal affairs of the company is made by appraisers, auditors, industrial engineers,

and marketing specialists in the employ of the investment banking firm. Legal counsel also passes upon such matters as franchises, leases, and contracts to which the issuer may be party.

The findings and recommendations of the buying department, based on the office study, are usually submitted to the "investment committee" consisting of the senior officers or partners of the firm. If the decision of the committee is favorable, the firm takes the necessary steps to make a more careful and detailed investigation of the proposition. A final favorable decision is followed by a negotiation conference with the issuer. At the negotiation conference a final agreement is reached, which is formally expressed in an underwriting contract between the issuer and the buying group.

Underwriting agreement. The distribution of a security issue involves a distribution of the risk and a distribution of the securities. A large issue involves risks which a single investment house is unwilling to assume and, for this reason, the originator of the issue forms a buying group to distribute the risk among a number of houses. It also forms a selling group to obtain a speedier distribution and a better placement of the securities. For this reason, while the negotiations between the originating house and the issuer are in progress, the former is inviting other houses to join it as joint underwriters in the purchase of the issue. The originating house, which usually acts as group manager, selects the firms to be invited to participate as joint underwriters and determines the size of the individual participations. The number of participants varies with the size and quality of the security issue and the current position of the investment market. For example, 146 houses constituted the buying group in a \$100,000,000 American Tobacco issue of debenture 3s, whereas on the other hand, 56 houses formed the buying group for a \$20,000,000 issue of P. Lorillard debenture 3s.

Selection of participants. Two factors enter into the selection of the participants in a buying group: (a) financial responsibility, since each participant is expected to purchase its commitment outright and to pay in cash before any retail distribution is made; and (b) ability to distribute securities at retail or wholesale, in order to effect a speedy distribution. The size of individual participations may vary rather widely. For instance, the individual participations in the American Tobacco 3s ranged from \$100,000 to \$5,000,000, and in the P. Lorillard issue of 3s from \$100,000 to \$1,800,000.

In determining the participation offered each participant, the group manager is guided largely by the record of the various houses in past flotations.

Nature of underwriting agreement. The agreement under which the joint underwriters purchase the security from the issuer is known as the underwriting agreement. The chief items in the underwriting agreement are: (a) the identification of the securities to be issued; (b) the method and time of payment and delivery of the securities; (c) provision for a carefully drawn registration statement and prospectus under the Securities Act of 1933; (d) agreement by the underwriters to make public offering usually as soon as possible after the registration statement becomes effective; (e) disposition of proceeds of issue, future financing, and reports to the underwriters; (f) agreement to indemnify the underwriters against the Federal Securities Act and common law liabilities incurred in connection with the issue; and (g) a provision that the whole transaction is contingent upon finding representations as stated by the company to be correct.

The issuer usually agrees to pay all costs and expenses in connection with the delivery of the securities and sometimes includes counsel and other expenses incurred by the underwriters, compliance with state blue-sky laws, and listing on exchanges. For example, the expenses incurred by Alleghany Corporation in an issuance of $3\frac{1}{4}$ per cent secured convertible notes amounted to \$239,750 and consisted of:

| | |
|---|------------------|
| Securities and Exchange Commission registration fee..... | \$ 3,150 |
| Federal Issue tax..... | 33,000 |
| Fee for listing notes on New York Stock Exchange..... | 3,600 |
| Expense of printing registration statement, prospectus, exhibits, indenture, and other documents..... | 30,000 |
| Preparation of the notes | 14,000 |
| Trustee's charges and expenses in connection with the execution of the indenture and the authentication of the notes..... | 20,500 |
| Payment to underwriters in partial reimbursement of their out-of-pocket expenses..... | 35,000 |
| Fees and disbursements of counsel for Alleghany..... | 65,000 |
| Auditor's fees and expenses..... | 10,500 |
| Miscellaneous..... | 25,000 |
| Total..... | <u>\$239,750</u> |

It is usual, also, for the issuer to give specific permission to the purchase group and dealers to use the prospectus, and to provide an adequate number of copies.

To guard against unforeseen changes in the capital market during the twenty-day "waiting period," the price to the issuer and to the

public is usually not stated in the underwriting agreement or original registration statement. It is inserted later by filing an amendment to the registration statement. For example, the public offering price of 102.15 on a \$30,000,000 issue of Alleghany Corporation 3 $\frac{1}{4}$ s was not made public until an amendment to the registration statement stating the price was filed with the Commission two days before the offering date.¹² The price at which the issue is to be offered to the public is most important for a successful offering. If an issue is overpriced, it may encounter market resistance during the period of the public offering and subsequently experience a decline in market price that will react unfavorably upon the investors who bought the security at the public offering price and upon the issuer, whose credit rating is thereby affected. The underwriters, too, may incur a substantial loss. If an issue is underpriced, the subsequent rise in market price reacts unfavorably upon the issuer, who feels the issue was sold too cheaply. The final public offering price is influenced by the features of the issue and the market position of similar outstanding securities with special reference to yield, maturity date, and coupon rate. For example, a \$175,000,000 issue of American Telephone & Telegraph Company's debenture 2 $\frac{3}{4}$ s was publicly offered at 100. Although it was anticipated that the debentures would sell above par as a distributed issue (as they did), nevertheless the size of the issue and the slowness with which institutional investors were absorbing other new issues led the underwriters to set a price no higher than par.

Since the underwriters buy the issue to sell it at a profit, the purchase price paid by the underwriters to the issuer is the public offering price less the gross underwriting spread, which in turn is influenced by the quality and size of the issue and the condition of the market. The underwriting spread represents the underwriters' compensation for (a) risks they assume in agreeing to buy the issue, (b) services rendered in distribution, (c) expert advisory and technical services rendered to the issuer in preparing the issue, and (d) actual expenses incurred in both the preparation and distribution. For example, a \$20,000,000 issue of P. Lorillard Company debenture 3s was sold to the underwriters at par and offered to the public at

¹² The price to the public was 102.15 per cent plus accrued interest from April 15 to the date of delivery; the underwriting discounts and commissions were 1.90 per cent; and the net cash proceeds to Alleghany Corporation were 100.25 per cent. In terms of dollars, the amounts were \$30,645,000, \$570,000, and \$30,075,000, respectively. The net cash proceeds to Alleghany Corporation were further reduced by \$239,750, representing expenses incurred in connection with the issuance of the notes.

101¾, yielding to the underwriters a commission of 1¾ per cent. The spreads on a selected group of new offerings were:

| <i>Issuer</i> | <i>Proceeds to Issuer</i> | <i>Price to Public</i> | <i>Spread</i> |
|---|-------------------------------|----------------------------|---------------|
| California Oregon Power first mortgage 3½s, 1974..... | 101.70 | 102.86 | 1.16 |
| Chicago, Burlington & Quincy refunding mortgage 3½s, 1974..... | 99.137 | 100.75 | 1.613 |
| Metropolitan Edison first mortgage 2½s, 1974 | 100.312 | 101.625 | 1.313 |
| Potomac Edison first mortgage & collateral trust 3s, 1974.. . . . | 101.402 | 102.50 | 1.098 |
| American Telephone & Telegraph debenture 2½s, 1980 | 99.5599 | 100.00 | .4401 |

Escape clauses. The underwriting agreement also usually contains numerous "escape" clauses, the most common of which provides that the originator, as representative of the purchase group:

. . . may, in its discretion, terminate this agreement, without liability on the part of the members thereof if prior to the time for delivery any substantial change in the position of your company, or any subsidiary, or in the existing operation, political, economic or market conditions shall have taken place which, in our opinion, renders it impracticable or inadvisable to market the bonds at the price to the public named.

It should be noted, however, that the underwriting agreement is drawn up and signed after the registration statement for the issue has been filed with the Commission, but before the registration has become effective. The underwriting agreement under which the \$30,000,000 issue of Alleghany Corporation 3¼ per cent secured convertible notes were publicly offered was signed two days before the public offering.

Effective date. The registration statement becomes effective on the twentieth day after its filing with the Commission.¹³ The date selected for the public offering of the issue is important to the success of the issue. It is selected with a view to avoiding foreseeable unfavorable conditions. The group manager may postpone the public offering beyond the effective date, but he cannot offer the issue prior to that date. Since the earliest effective date is measured from the date of filing, the latter, too, must be selected with care. The Commission has discretionary authority, however, to accelerate the effective date of the registration statement. When

¹³ On the 20th day, in the instance of foreign government issues. Section 8 (a) provides that "in cases of Securities of any foreign public authority, which has continued the full service of its obligations in the United States, the proceeds of which are to be devoted to the refunding of obligations payable in the United States, the registration statement shall become effective 20 days after the filing thereof."

the statement becomes effective, the issue may be publicly offered for sale. The Commission has ruled that the "twentieth day" begins immediately upon the close of business at the Commission at 5:30 P.M., Eastern Standard Time, after nineteen days from the date of filing have elapsed, counting weekdays, Saturdays, Sundays, and other holidays alike. The registration statement may be amended during this waiting period without changing the effective date.¹⁴ The Commission usually permits the issuer to withhold from the registration statement the public price of the offering and the names of the underwriters until shortly before the date on which the statement becomes effective.¹⁵ The purpose of the twenty-day waiting period is to give the Commission time in which to make an examination of the registration statement for omissions, incomplete disclosures, and inaccuracies and to give the investor time in which to consider the facts concerning the proposed security issue.

Underwriting group agreement. The underwriting group agreement, signed by all participating firms, holds each participant responsible only for its designated share. Thus a firm that has a \$4,000,000 participation in a purchase group for an issue of \$40,000,000 of bonds is responsible only for its share. The agreement also states the portion of this participation which the participant agrees to "give up" for allocation to members of the selling group, the balance being retained by the participant for its own retail distribution. The manager is usually authorized to make sales in large blocks to institutional buyers, such as insurance companies, at the public offering price. In an offering of \$100,000,000 of debenture 3s by American Tobacco Company, insurance companies were reported to have purchased between \$30,000,000 and \$40,000,000. Libby, McNeil & Libby brought out a \$7,500,000 issue of serial debentures, the first fourteen maturities of which were promptly sold to institutional investors by the group manager for group account. This is done to facilitate large institutional purchases, which can be made more effectively through the group manager than through a large number of individual houses. Such sales are prorated (according to participation) to the amounts retained by the participants

¹⁴ Although the filing of an amendment to the registration statement prior to the effective date has the effect of establishing a new filing date and starting a new 20-day period running, the Commission is given power under the Act to relate the filing of such amendment back to the original filing date when such action is not detrimental to the public interest.

¹⁵ An amendment filed after the effective date of the registration statement becomes effective on such date as the Commission may determine, with due regard to the public interest and the protection of the investor.

for their own retail distribution.¹⁶ The price and the time at which each participant is to make payment to the issuer are specified in the agreement.¹⁷ The agreement states the public offering price of the securities and the date on which the offering is to take place. Each participant agrees not to sell any of the securities prior to the date nor to sell any of the securities to the public at less than the stipulated offer price during the life of the selling agreement. As part of the public sale of the securities, however, each participant usually assumes an additional obligation in connection with the market support operating during the initial period of distribution. This additional obligation is commonly limited to 5 per cent of the face amount of the issue. Thus the participant that has agreed to buy \$4,000,000 of the bonds must also take \$200,000 of the bonds which the group manager may have repurchased in the market in connection with his stabilization operations.¹⁸

Selling group. During the waiting period the group manager forms a "selling group" to handle the public distribution of the issue.¹⁹ Under the Securities Act of 1933, the group manager may not actually offer the securities for sale to the selling group members until the registration statement becomes effective. He may, however, take preliminary steps toward the formation of the selling group. The selling group is concerned with the sale only of that portion of the new offering which is not actually sold by the underwriting group members. It consists of dealers throughout the country and is formed in order to expediate the sale and to obtain a wide distribution of the issue.²⁰ Speed in selling the securities enables the underwriters to terminate their liability and to free their capital for other underwritings. A wide and permanent distribu-

¹⁶ Inasmuch as, under this arrangement, the participants do not know, at the time of signing the group agreement, the amount of securities which they will actually have available for retail sale to their own customers, the group agreement requires the group manager to notify each participant as to this amount on or immediately before the public offering date.

¹⁷ In the event payment by a participant is not received by the manager at the time specified, the manager is authorized to borrow the sum involved in order to pay the issuer.

¹⁸ See page 159 for discussion of supporting the market.

¹⁹ A selling group is not used in distributing municipal bonds. Usually the issue is offered for sale to the public and distributed by the buying group as soon as possible after it has been awarded. In some instances an issue, awarded in the morning, has been publicly offered in the afternoon of the same day. Such sales are made on a "when, as, and if issued" basis, pending the delivery of the securities to the buying group by the issuing municipality.

²⁰ The selling group offering the \$100,000,000 issue of American Tobacco 3s due 1962 consisted of approximately 600 houses, while the group distributing the company's \$100,000,000 issue of debenture 3s due 1969 included 400 members.

tion of the securities enables the underwriters to satisfy the issuer and thereby assure permanent relations and at the same time to prevent dissatisfaction among their own clients arising out of later sharp declines in the market price of the security due to poor distribution. Members of the selling group are selected chiefly for their ability to place bonds with more or less permanent investors.

Preliminary prospectus. The group manager usually provides the dealers invited to join the selling group with a preliminary prospectus, commonly referred to as "red herring." Along the left-hand border of each page of the prospectus is printed in red the following statement:

A registration statement relating to the securities referred to herein has been filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended, but has not yet become effective. The information contained herein is given circulation solely for informative purposes and is subject to correction and change without notice. Under no circumstances is it to be considered a prospectus or an offer to sell or as a solicitation of an offer to buy the securities referred to herein.

The preliminary prospectus differs from the one to be used in the public offering in that it does not reveal the price at which the issue will be offered to the public or the concession that will be given to the members of the selling group. The preliminary prospectus is usually accompanied by a selling group letter that will serve as an agreement between the underwriting group and the selling group. The public offering price and the selling group's concession are also omitted from the letter.

Selling group dealers. The dealers are usually allowed up to a certain hour on the public offering day to accept or decline the invitation, in accordance with the terms of the selling group letter. At the moment the registration statement becomes effective, the group manager sends a telegram to each dealer invited to join the selling group, advising the dealer of the public offering price and the concession. The dealer invited to join the selling group is usually offered a specific block of securities. Acceptance makes the securities "firm" to the amount accepted; that is, the dealer is assured of that allotment and can therefore confirm sales to its customers. The selling group member may subscribe for additional securities, but such subscription is subject to allotment by the group manager. The agreement also specifies the exact date on which the selling group member must pay for and take delivery of its allotted securities. The price concession to the selling group is carefully stated. For example, in a \$100,000,000 issue of American Tobacco 3 per

cent debentures, the selling group concession was $\frac{3}{4}$ of 1 per cent.

Selling group commissions are retained by the group manager until the termination of the group. This is accomplished by requiring the dealer to pay for the securities at the public offering price. The arrangement has a twofold objective: (a) it provides for commission cancellation on securities repurchased through the group manager's trading account operated in support of the market, and (b) it gives the group manager greater control over the activities of the selling group.

The agreement states the offering price and prohibits the members of the selling group from selling the securities to the public at less than the public offering price during the life of the group. The agreement usually includes a provision permitting selling group members and participants to sell the securities to and to buy them from the group manager as well as between themselves. This provision permits the readjustment of oversubscribed positions by members who have purchased more securities than they can sell readily and who wish to dispose of their surplus to members who are undersupplied.

Every member of the selling group incurs the risk involved in its security purchase, but no liability to take up any securities unsold by the underwriting group at the termination of the group. The member simply earns what amounts to sales commissions on the securities which it individually purchases and sells.

Public offering of the issue. On the date set for the completion of the terms of the underwriting contract, that is, the delivery date, each underwriter delivers to the managing house a certified bank check made out to the order of the issuer. The checks are delivered to the issuer at a designated bank in exchange for the bonds, which are usually in the form of temporary certificates exchangeable later for definitive bonds. The participant "takes down" only that part of its subscription which it plans to sell directly. The balance of its subscription or "give up" is distributed to the members of the selling group, from whom the participant will receive reimbursement through the group manager.

All firms participating in the distribution agree not to offer the new securities either before a specified time or under a minimum price. The group manager has full discretion in choosing the date of the offering and may delay the actual offering even though the twenty-day waiting period has elapsed. The time for the public offering is set exactly, for example, as "11:00 o'clock A.M., Eastern

Standard Time, on the day after that on which the Registration Statement becomes effective." At the stated time the new securities are open for sale to the public directly through members of the underwriting or selling groups or indirectly through hundreds of small dealers and banks throughout the country. At the time set, the group manager "opens the books" by receiving subscriptions to the issue from both selling group members and outsiders. The manager may reject the subscriptions in whole or in part, except where firm subscriptions may be made by selling group members. The manager reserves the right to close the books at his discretion. If the demand is great and the books are closed shortly after the opening, the issue is announced as "oversubscribed." The term "oversubscribed" means oversubscription by dealers and not by investors. Oversubscription for the issue presents the group manager with the problem of allotment.

The small dealer who does not join the selling group may participate in the sale of the security by "selling off the list" of a larger firm. The small dealer secures the printed offering list of the larger firm and offers to sell securities from it at the prices therein stated. The larger firm, whose offering sheet is used, usually allows a special dealers' discount. The reallowance concession allowed to small dealers has been $\frac{1}{8}$ to $\frac{1}{4}$ of 1 per cent on bonds (\$1.25 to \$2.50 per \$1,000 bond).

Subject and firm orders. Orders from investors for new securities are either "subject" or "firm." A "subject" order is subject to confirmation. A "firm" order has been confirmed. All orders are subject to confirmation unless accepted on a "firm" basis. Subscriptions by investors may be accepted and confirmed without an initial payment by the investor on the subscription. Payment by the investor against the delivery of the temporary certificates is not required, usually, for a period averaging two weeks. The public offering price is an "and interest" price. For example, Virginia Electric and Power Company first and refunding mortgage, series D, 3s were offered in May at 103 $\frac{1}{4}$ plus accrued interest from April 1 to date of delivery. On the date of payment, temporary certificates are delivered against cash payment by the subscribers. The temporary certificates, which are negotiable, are later exchanged for the definitive bond certificates.²¹

Supporting the market. Sales of the new securities on the mar-

²¹ See Appendix G for Announcement of Exchange of Temporary for Definitive Bonds, page 523.

ket at prices lower than the public offering price during the period of distribution would handicap the success of the distribution. It is usual, therefore, for the purchase group, through the group manager, to "support the market" during this period by placing buy orders in the market for the purchase of limited quantities of the bonds at or below the public offering price. In some instances similar buy orders are placed for the purchase of other securities of the issuer if those issues seem more attractively priced than the new issue. In this way the market price of the new issue is not allowed to fall below the offering price during the period of distribution.

The group manager is generally authorized by the group agreement to sell the securities short and to over-allot the "give up" to selling group members. Each of those operations tends later to strengthen the market price of the securities when covering purchases are made. In the event that the trading account cannot readily purchase securities in the market to cover short or over-allotted positions, the group manager is authorized by the group agreement to call upon the participants to deliver the needed securities on a pro rata basis. Usually the agreement limits such liability to a maximum of 10 per cent of each participation.

The most common method of handling securities repurchased by the group manager through the trading account operated in support of the market is by redelivering the repurchased securities to the house originally selling them. Since the group manager maintains an accurate record of the serial numbers of all securities allotted to each house, the repurchased securities can be redelivered to the proper house and at the actual cost to the trading account, that is, the purchase price plus the buying brokerage commission. As a result the house is obliged to sell the same security twice but is credited with only one commission less brokerage costs. In this way the house is penalized for its original failure to place the security well. In other instances, the group manager cancels the commission of the house on the original sale and re-allots the security to another house which can place the security more satisfactorily.

Although the practice of "supporting the market" is a form of price manipulation, in the official opinion of the Commission, it has been approved as an essential part of security distribution. The Commission, however, has adopted two related rules for the purpose of (a) acquiring data on the stabilization, (b) aiding in the enforcement of the anti-manipulation sections of the Act, and (c) affording greater protection to the investing public. One rule requires a

syndicate that contemplates stabilization to include in the prospectus a statement that it intends to stabilize security prices to facilitate the distribution in respect of which a registration statement is filed under the Act. Intention to "support the market" is usually announced in the prospectus by the statement:

To facilitate this offer, it is intended to stabilize the price of the Debentures to which this prospectus relates. This statement is not an assurance that prices of the Debentures will be stabilized, or that stabilization, if commenced, may not be discontinued at any time.

The second rule requires any underwriter of the issue, or any other broker or dealer who stabilizes in aid of distribution as to which a Securities Act registration statement is filed, to submit daily reports to the Commission showing all transactions effected during the period of stabilization and distribution of the issue. All daily reports are analyzed by the Commission, and price charts are constructed showing the market behavior of the stabilized security in relation to the movement of market averages of comparable securities.

In some cases, the termination of the group and the removal of market support is followed by a decline in the market price of the issue. A \$45,000,000 issue of Northern Indiana Public Service Company $3\frac{1}{8}$ per cent bonds was brought out at $102\frac{7}{8}$ and when the group terminated the bonds receded to $101\frac{5}{8}$ bid, $101\frac{7}{8}$ asked. An issue of Louisiana Power and Light first mortgage 3s was offered at 103; upon termination of the selling agreement among the underwriters, the bonds were quoted at $101\frac{3}{4}$ bid, $101\frac{7}{8}$ asked.

Termination of the group. Under present-day practice, the life of the group seldom exceeds one month. Not all new security offerings, however, are quickly absorbed by the market. Unforeseen market conditions may make new issues of even high-grade securities difficult to sell or "sticky." A \$49,000,000 issue of Commonwealth Edison Co. 27 $\frac{3}{8}$ s, was offered to the public at 101.335 under a syndicate agreement with a life of twenty days. Because of adverse market conditions the agreement was extended for another twenty days. With the bonds quoted in the market at $100\frac{1}{8}$ bid, $100\frac{1}{4}$ asked, the underwriters decided not to wait until the end of the extended period and terminated the agreement about a month after the original offering date.

The profit to each participant in the purchase group is determined by the nature of the participation, which consists of (a) the securities sold to institutional buyers by the group manager, (b) the

securities that the participant has sold itself, (c) the securities that the participant has given up for allotment to selling group members, and (d) the securities in the trading account of the group manager.

Sales to institutional buyers by the group manager are made for the participant's account. The institutional buyer pays the public offering price directly to the group manager, who remits the purchase cost of the securities to the participant. The profit is credited to the account of the participant and retained until the termination of the group.

The securities "taken down" by the participant are delivered to and sold by the participant. The sales price is paid by the buyer directly to the participant. The difference between the purchase cost and the sale price to buyers represents the profit to the participant. In the instance of securities "taken down" by the participant but sold by it at wholesale to dealers, the profit to the participant is reduced by the reallowance concession granted to the dealer.

The securities "given up" by the participant for sale through members of the selling group are sold to these members by the group manager, to whom the selling group members make payment directly. The manager returns the original purchase cost of the securities to the participant. The participant's account with the group manager is credited with the difference between the purchase cost of the securities and the price paid by the selling group member. The group manager retains this commission until the termination of the group. Securities "given up" to but not sold by the selling group are delivered to the participants on a pro rata basis. Inasmuch as the participant has already paid for those securities, the eventual profit or loss realized on them is the difference between the purchase cost and the eventual sale price. Sometimes those securities are not sold by the participant until after the termination of the group, and then sometimes at a price lower than the cost price.

The securities held in the trading account of the group manager at the termination of the group are pro-rated to the participants. Inasmuch, however, as those securities have been sold once and the participants reimbursed for them, the participants, upon taking delivery, must rebuy them from the group manager at a price approximating the purchase cost to the trading account. The profit or loss that the participant eventually realizes on such securities depends upon the ultimate price at which they are sold.

At the termination of the group, therefore, the manager holds

sales commissions of the participants earned on securities sold by the manager to institutional buyers and on securities given up to the selling group. The group manager deducts from those credit balances commissions on securities repurchased by the trading account and redelivered to other dealers as well as the participant's pro rata share of group expenses. The participant's gross profit on the underwriting consists of the commissions realized on the direct sales at wholesale and retail, together with the net credit balance remitted by the group manager. If, on the other hand, the account with the group manager shows a debit balance for which the participant must remit, the gross profit is reduced by that amount. The compensation to the group manager is in the form of a fee, which may be stated as a specific amount or as a percentage of the security issue. It is paid by the participants pro rata as a part of the group expenses.

Underwriting stock. Investment banking houses also underwrite the issue of stock by corporations. A corporation that proposes to raise additional capital through the sale of stock commonly offers the stock to its present stockholders by the declaration of rights. For example, P. Lorillard Company offered 374,391 shares of common stock to the stockholders of record as of October 4 at the rate of one share of new stock for every five shares of old stock, at a subscription price of \$14 a share. The rights expired at 3:00 P.M., Eastern Standard Time, on October 15. Any stock not subscribed for through the exercise of the rights by October 15 could then be offered to the public. To assure the sale of the stock to the public, the corporation usually arranges to have the issue underwritten by investment banking houses. This arrangement is commonly referred to as a "standby offering." Just prior to the effective date of the registration, the underwriters meet with the officials of the company to settle the final details of the offering, such as the subscription price and the compensation to the underwriters for their assurance to the company that the funds will be available. The underwriting agreement is signed and the underwriters assume the risk of the offering. The commitment to purchase the unsubscribed shares extends over the entire period from the offering date to the expiration date. The underwriters of the Lorillard stock agreed to purchase at \$14 a share all the common stock not subscribed to by the exercise of the stock subscription warrants. The company agreed to pay the underwriters a commission of fifty cents a share for each of the 374,391 shares offered,

regardless of the actual number of shares not subscribed to through the rights and therefore taken up by the underwriters. In addition, the company agreed to pay a commission for such shares as the underwriters had to purchase under the agreement in accordance with the following schedule: fifty cents a share if the shares purchased were more than 37,439, and an additional ten cents a share if the shares purchased were more than 187,196. In other words, if all the stock were subscribed to by the exercise of the rights, the underwriters' commission would be \$187,195.50 ($374,391 \times \$.50$). If the underwriters were obliged to buy all the stock, the aggregate commission would be \$411,830.10 ($374,391 \times \1.10).

Two factors enter into a successful offering: (a) a subscription price that attracts buyers and (b) a favorable market during the period when the rights are outstanding. The issuer can control the former factor but not the latter. It is possible to achieve some degree of protection against unfavorable market conditions by setting the subscription price at such a large discount from the current market price of the old stock as to retain some value for the rights even in the face of a substantial decline in the market price of the old stock. This provision, however, may prove to be very expensive to the issuer.

Usually the market action of the stock approaches the action of a stock dividend. The risk of the underwriters is great in that they underwrite an offering of stock at a price which is perilously close to the theoretical dilution point to which the stock may be expected to decline. In many cases, the underwriters allow themselves a very narrow margin of safety below the theoretical dilution point. This arises from the fact that subscription rights offerings are usually made during periods of rising stock prices. Shields & Company, a New York firm, made a study of 65 offerings of common stock to existing common stockholders on the New York Stock Exchange during a recent five-year period, to determine the relationship between the offering price of the new stock and the lowest market price of the old stock during the period when rights were outstanding. The study showed that in over 60 per cent of the offerings the margin of safety was less than 15 per cent.

The principal element of risk to the underwriters in a standby offering lies in the possibility of an unfavorable market during the period of the standby. During this period the underwriters' capital is committed and is subject to a sharp break in prices while their distribution machinery is immobilized. Their activity is limited to

stabilizing the stock or the rights or both. They may not purchase rights for the purpose of exercising them and making a distribution prior to the expiration date. The offering of the stock by the underwriters is not made until after the amount of subscription has been determined. In some cases, this has been too late to do anything about an unsuccessful offering.

In an attempt to reduce their commitment as circumstances increase the risk element, underwriters in recent years have adopted a new method, usually referred to as the Barry Plan, under which they (a) purchase the rights during the period of the offering to stockholders, (b) exercise the rights by subscribing to the new stock, and (c) offer the new stock to the public from time to time at a price consistent with the prevailing market. The Indianapolis Power & Light Company, for example, issued rights, evidenced by subscription warrants, to holders of its common stock permitting them to subscribe to 214,451 shares of common stock, the rights to expire at 3 p.m., E.S.T., on November 19th of a recent year. The underwriting agreement provided that the underwriters could offer shares of the common stock acquired through the exercise of the warrants, or otherwise, and shares of the unsubscribed stock, at a price which could vary each 24-hour period commencing 3 p.m., E.S.T., on November 5. The price could not be less than the subscription price of \$22 a share or more than the last sale price of the common stock on the New York Stock Exchange in the last preceding 24-hour period in which the common stock was sold on the New York Stock Exchange. Stockholders subscribed to 76,367 shares or 35.5 per cent of the offering whereas the underwriters distributed 111,890 shares or 52.4 per cent during the rights period. Under this method (a) the underwriters may reduce their risk substantially, (b) stockholders have a more active market for the sale of their rights, and (c) the possibility of a large block of unsubscribed securities demoralizing the market after the expiration date is greatly reduced.

A modification of the usual underwriting method was adopted by Columbia Gas System, Inc., in an offering of 1,223,000 shares of common stock. The company issued to its stockholders transferable warrants evidencing the right to subscribe at \$10 a share to one new share for each ten shares held. At the same time, First Boston Corporation, retained by the company as dealer-manager of the offering, invited 1,200 securities dealers throughout the country to participate in the distribution. Under the plan the participating

dealer was paid (a) 25 cents a share, with a maximum of \$250 a stockholder, for each warrant exercised as a result of his efforts; (b) 25 cents a share for additional subscriptions by stockholders beyond their actual "rights"; and (c) 25 cents per warrant exercised by them as a result of selling stock to customers and buying warrants to obtain the stock.

Supplementary functions. The investment banking firm acts in an advisory capacity to both issuer and investor. The firm is in a splendid position to advise an issuer who desires to raise capital through the sale of securities because it is constantly in touch with market conditions and hence is in a position to recommend the type of security that will prove most popular under existing conditions. It is also ready to advise an investor in regard to the suitability of a particular security for his needs or in regard to desirable changes in his portfolio.

The investment banking house may form protective committees for the benefit of clients who hold securities of companies in reorganization. The protective committees seek to arrange the most equitable settlement on behalf of the security holders whom they represent.

The house also services the interests of clients by maintaining a trading department. The trading department has three functions. First, it usually handles the orders to buy and to sell placed by the syndicate manager in "supporting the market" during a distribution of new securities. Second, it provides a "secondary market" for securities that were originally sold by the firm and of which the clients desire to dispose. The department "makes a market" by maintaining bid and asked prices on the issues. Third, if securities are received by the firm on an exchange basis in the purchase of a new issue, the credit allowed the client for the trade-in depends upon the price for which the firm can sell the security through its trading department. The principal function of the trading department is, therefore, to assist the sales department in the distribution of new issues.

Investment banking houses also assist their clients by (a) safeguarding the securities in vaults, (b) collecting interest and dividend payments when so requested, (c) notifying investors of called bonds and of opportunities to profit from sinking fund offers or conversion options, (d) reviewing portfolios with suggestions for improvement, (e) advising clients on income and estate tax problems

in connection with security holdings, and (f) providing statistical data on issues and issuers.

Review Questions

1. Discuss the significance of the Securities Act of 1933.
2. What domestic securities are exempt from registration?
3. Discuss the significance of the amendment to the Securities Act of 1933 which raised the ceiling to \$300,000 for the public offering of securities without the need to file a registration statement.
4. Discuss the nature and purpose of the registration statement.
5. Distinguish between an S.E.C. "deficiency statement" and a "stop order."
6. To what extent does the S.E.C. approve an issue?
7. What is meant by a "prospectus"?
8. Distinguish between the statement "New Issue" and "Not a New Issue" as applied to an underwriting prospectus.
9. Discuss the civil liabilities under the Act.
10. When does a registration statement become effective?
11. Does the filing of an amendment to the registration statement affect the effective date?
12. What is the purpose of the waiting period?
13. Indicate the chief function of investment banking.
14. Classify investment banking houses according to (a) field of activity, (b) nature of business, and (c) form of organization
15. Name the functions of an investment banking house.
16. Indicate two methods of placing new issues.
17. Discuss the significance of private placement of issues.
18. Explain what is meant by public offering of a new issue.
19. Name two methods of purchasing new issues by investment banking houses.
20. Explain what is meant by competitive bidding.
21. Determine the price to be bid by an investment banking group on a new issue of \$10,000,000 of 4 per cent bonds due in 25 years when comparable bonds are selling to yield 4.25 per cent to maturity. Allow a gross profit spread of $\frac{1}{2}$ of 1 per cent.
22. Determine the price to be bid by an investment banking group on a new issue of \$10,000,000 of $3\frac{1}{2}$ per cent serial bonds, maturing uniformly over a twenty-year period, assuming a gross profit spread of $\frac{3}{4}$ of 1 per cent and estimating the following sales: one year maturity, $3\frac{1}{2}$ per cent; two years, $3\frac{5}{8}$ per cent; three and four years, $3\frac{3}{4}$ per cent; and all later maturities, 3.85 per cent.
23. An issue of \$75,000,000 forty-year $2\frac{7}{8}$ per cent debenture bonds was offered at competitive sale. Compute the "cover" separating a bid at 102.6199 and another at 102.55991.
24. Compute the lower net interest cost to the issuer on a \$100,000,000 issue of thirty-year $2\frac{5}{8}$ per cent bonds on a bid of 100.7299 and a bid of 100.4499.
25. Compute the net interest cost to the issuer on a bid of $98\frac{1}{4}$ for a \$40,000,000 first mortgage 4 per cent issue due in thirty years.

26. Compute the net interest cost to the issuer on a bid of 99.52 for a $1\frac{1}{4}$ per cent coupon on a \$3,000,000 issue of equipment trust certificates dated February 1, 1947 and maturing at the rate of \$300,000 on each February 1, 1948-57 inclusive. The certificates were designed to finance not more than 75 per cent of the purchase price of new equipment with an estimated cost of \$4,077,200.

27. A company offered for sale additional shares of common stock asking bidders to name the smallest number of shares for which they would pay \$5,000,000 and received the following bids: Group A, 133,142 shares; Group B, 141,945 shares; and Group C, 147,929 shares. Indicate the winning bid.

28. A corporation offered 50,000 shares of \$100 par value preferred stock at competitive bidding and received the following bids: Group A, \$101.52 for a dividend rate of 3.70 per cent; Group B, \$100.1399 for a dividend rate of 3.65 per cent. Determine the winning bid.

29. A railroad invited bids on a \$125,000,000 first mortgage bond to be offered in series as follows: \$25,000,000 series A, due 1961; \$50,000,000 series B, due 1986; \$50,000,000 series C, due 1996. Group A submitted a "basket" bid and bids for the individual issues. The "basket" bid named a price of 98 for the bonds of the 1961 maturity with a $2\frac{7}{8}$ per cent coupon and 98 for bonds of each of the two longer maturities with a $3\frac{3}{4}$ per cent coupon. The bids for the separate issues were 98 for series A bonds with a 3 per cent coupon and a similar price for both series B and series C bonds with a 4 per cent coupon. Explain what is meant by a "basket" bid.

30. Determine the "spread" on an issue bought by an underwriting group at 99.2799 per cent and reoffered to the public at 100.

31. Do offerings of new securities at competitive bidding ever bring only one bid?

32. Have investment bankers ever encountered direct competition from institutional investors in bidding for a new issue?

33. What is meant by a "standby account" in competitive bidding for new security issues?

34. Name the classes of securities sold on a competitive basis.

35. Explain the legal requirement underlying and the nature of bids for municipal bonds.

36. What railroad issues must be sold at competitive bidding?

37. What public utility issues must be sold at competitive bidding?

38. Have any industrial issues been offered for sale at competitive bidding?

39. What is meant by the sale of securities by private negotiation?

40. Name the objectives of the investment banking house in buying a new issue.

41. Explain the function of the buying department.

42. Indicate the factors entering into the problem of distributing a new issue.

43. Explain the function of the syndicate manager in the formation of the buying group.

44. Name the factors entering into the selection of the participants in a buying group.

45. Describe the chief provisions of the underwriting agreement.

46. Discuss the significance of the "escape" clauses in the underwriting agreement.

47. Explain the nature of the underwriting group agreement.

48. Explain the nature and purpose of the "selling group."
49. Discuss the nature of the selling group agreement.
50. Distinguish between the "give-up," the "take-down," and "institutional sales" in the public offering.
51. What is meant by "beating the gun"?
52. What is meant by "opening" and "closing" the books?
53. What is meant by the announcement that an issue has been "oversubscribed"?
54. Explain the meaning of the expression "selling off the list."
55. Distinguish between a "subject to confirmation" and a "firm" order for securities.
56. Explain how the investor makes payment on his subscription.
57. What is meant by "supporting the market"?
58. Indicate the sources of profits to the participants in the purchase group.
59. Explain the underwriting of new stock issues.
60. What is meant by a "standby offering"?
61. Indicate the effect upon the market price of an issue of the termination of market support of a new issue.
62. What is meant by a "sticky" issue?
63. Explain the advisory, protective, and miscellaneous functions of an investment banking house.

Assignment

- (a) Compute the difference, both per bond and aggregate, between the two following bids for a \$40,000,000 issue with a coupon rate of $3\frac{1}{4}$ per cent: Firm A bid 101.463; Firm B bid 101.424.
- (b) On the basis of the following data on a \$25,000,000 issue, compute, in terms of per bond and aggregate, the price to the public, the underwriting discounts and commissions, and the net proceeds to the issuer: price to the public, 103.45; underwriting discounts and commissions, 1.95 per cent; net proceeds to issuer, 101.50 per cent.
- (c) Determine the effective date for the registration of an industrial issue filed on July 26.
- (d) A company issued 545,000 shares of stock through the declaration of rights and agreed to pay the underwriters a commission of 45 cents a share for the entire issue and an additional 30 cents for each share not subscribed for through the rights and purchased by the underwriters. Compute the commission to the underwriters if (1) all the stock is subscribed for through rights; (2) 320,000 shares are subscribed for through rights; and (3) none of the stock is subscribed for through rights.
- (e) Determine the difference in net interest cost to the issuer of a \$10,000,000 thirty-year $3\frac{3}{4}$ per cent bond between a bid of 100.529 and a bid of 100.271.
- (f) Compute the price to be bid by an investment banking group on a new issue of \$5,000,000 in $4\frac{1}{2}$ per cent serial bonds maturing uniformly over a twenty-year period, assuming a gross profit margin of 1 per cent and estimating the following sales prices: one year maturity, 4 per cent; two and three years, 4.05 per cent; four and five years, 4.10 per cent; and all later maturities, 4.125 per cent.

- (g) A railroad that offers \$7,500,000 of 1- to 10-year equipment trust certificates received the following bids: Firm A named a price of 99.3799 for a $15\frac{5}{8}$ per cent coupon; Firm B named a price of 100.015 for a $13\frac{3}{4}$ per cent coupon. Which is the better bid to the issuer?
- (h) A railroad invited bids on an issue of equipment trust certificates giving the bidders a choice of bidding on \$3,970,000 of certificates representing 80 per cent of the cost of the equipment or on \$3,720,000 of certificates representing 75 per cent of the cost. On either or both of those amounts the bidders could stipulate maturities of one to ten years or one to fifteen years. The following bids were received:
- Group A: 99 $\frac{1}{8}$ for an 80 per cent loan running from one to ten years as 2 per cent certificates.
 - Group B: 99.55 for a 75 per cent loan running from one to ten years as $2\frac{1}{4}$ per cent certificates.
 - Group C: 99.76 for a 75 per cent loan running from one to fifteen years as $2\frac{1}{4}$ per cent certificates.

Determine the winning bid and explain why.

- (i) A railroad received the following bids on \$25,982,000 of thirty-year first mortgage bonds: Group A named a price of 99.2799 and a rate of $27\frac{7}{8}$ per cent; Group B, 99.27 for $27\frac{7}{8}$ s; Group C, 98.8199 for $27\frac{7}{8}$ s. Indicate the winning bid and the difference between the winning bid and the next highest bid.

CHAPTER EIGHT

INVESTMENT POLICIES

Investment factors. In the formulation of an investment policy, the investor is faced with three problems: (a) What are the basic factors in the selection of securities? (b) What are the general investment policies followed by institutional investors? (c) What factors should the individual investor consider? The selection of securities by an investor involves consideration of many factors. Some are applicable only to certain types of securities; others are basic. The basic factors are safety, rate of return, marketability, tax position, and investment timing.

Safety. Safety in a security is relative and not absolute. No security is absolutely safe. Securities differ only in the degree of safety. For this reason the investor should seek securities with a degree of safety adequate with relation to his circumstances and requirements.

Safety of principal and safety of income are inextricably woven together. The primary objective of the investor is not merely to preserve the capital but to obtain a return upon it. If the income payment is safe, however, the principal is also safe, since the earning power that provides the income also gives value to the assets securing the principal. Investors have learned by sad experience that inability of the issuer to pay the income adversely affects the value of the principal.

The annual cash return to the investor, either as interest on a bond or as dividend on a stock, is in the form of dollars. The significance of the dollar return lies in its purchasing power, that is, the quantity of commodities and services which it can buy. The purchasing power of the dollar, however, is not constant but, on the contrary, is subject to change from time to time.

The annual rate of interest paid to the bondholder, or the annual rate of dividend paid to the preferred stockholder, is stated in the

instrument and is constant in rate throughout the life of the security. As a result, the holder of a bond which is not in default or of a preferred stock on which the full dividend rate is paid receives the same number of dollars in interest or dividend each year. Any increase in the purchasing power of the dollar, therefore, represents an increase in the real income to the bondholder or the preferred stockholder. On the other hand, and much more significantly, any reduction in the purchasing power of the dollar involves a decline in their real income. Since the very nature of either security precludes any offsetting adjustment in the number of dollars of return for the protection of the bondholder or preferred stockholder, they suffer a decline in real income with a reduction in the purchasing power of the dollar.

The cash dividend paid to the common stockholder is in the form of the same dollar as that paid to the bondholder or preferred stockholder. The common stockholder, however, is not subject to the same contractual limitation as the bondholder or preferred stockholder since the amount of dividend paid on common stock is entirely discretionary with the management of the corporation. The annual cash dividend on the common stock may be increased or decreased as economic conditions warrant and the management elects. A rise in the purchasing power of the dollar, if accompanied by a reduction in the number of dollars of annual dividend, may leave the common stockholder with substantially the same real income as he had before the change. On the other hand, however, with a decline in the purchasing power of the dollar, the reduction in real income to the common stockholder may be offset, in part at least, by an increase in the number of dollars of cash dividend. In other words, the common stockholder, in contrast with the bondholder and the preferred stockholder, does have some possible partial protection against a decline in the purchasing power of the dollar.

Rate of return. The rate of return is called the *yield*; it expresses the relation between the income received and the capital invested. It varies directly with the degree of risk involved. The more speculative the security, the higher is the rate of return, since purchasers of such securities demand additional compensation as a premium for the risk they assume. On the other hand, securities with investment quality yield a low rate of return because the buyers are willing to accept low rates for the greater safety provided. The investor seeking income must assume risks. The

amount of income, however, must be commensurate with the degree of risk that he can afford to assume.

Interest rates represent the return on capital and are determined by conditions of demand for and supply of loanable funds. As those fundamental conditions change, interest rates change, being high at one time and low at another. The movement of interest rates is determined to a considerable extent by the policies of the monetary authorities—The United States Treasury and the Board of Governors of the Federal Reserve System.

Inasmuch, however, as the capital market consists of credits of varying durations and of borrowers of varying responsibilities, there is not one interest rate but many interest rates. For convenience the prevailing interest rates are usually divided into the short-term or commercial rate and the long-term or investment rate. Short-term commercial and long-term investment rates tend to move together, but the latter changes less rapidly and within narrower limits than the short-term rate. The investment rate tends to follow a secular trend which is separate from cyclical influences.

Commercial rate. The short-term commercial rate reflects the demand for and the supply of short-term funds and applies to the market for (a) commercial paper, (b) bankers' acceptances, (c) collateral loans, (d) short-term government securities, and (e) federal funds.¹

Commercial paper. The commercial paper market consists of promissory notes, usually unsecured and unindorsed, issued by established companies of high credit standing. These notes generally (a) are issued in denominations of \$2,500 and multiples thereof, (b) mature in four to six months, and (c) carry a stipulated rate of interest. They are issued by concerns engaged in business of a seasonal nature chiefly to provide additional seasonal working capital and are marketed through commercial paper houses which buy the paper directly from the issuer. The interest rates on commercial paper are usually the highest of the open-market rates. They vary, however, with changing conditions in the money market and with the credit standing of the issuer.

Bankers' acceptances. Bankers' acceptances are negotiable documents by which a seller of merchandise gets money for his goods before the buyer is ready to pay. The seller draws a draft on the

¹ Madden, Nadler, and Heller, *Money Market Primer*, The Ronald Press Company, New York, 1948, contains a good description of the money market.

buyer's bank for the amount involved for payment on a certain date. The bank stamps the draft "accepted" thus guaranteeing the payment. Obviously the bank anticipates that the buyer will provide it with funds to pay the acceptance when due and usually requires that collateral be pledged as security. Under the Federal Reserve Act and subject to the regulations of the Federal Reserve Board, member banks of the Federal Reserve System are authorized to create bankers' acceptances which are eligible for discount at the Federal Reserve banks. The Federal Reserve banks are authorized also to buy and sell eligible acceptances in the open market. The supply of acceptances is created by the accepting institutions, or "acceptors," who consist of member banks, private banking firms, foreign banking corporations, and American agencies of foreign banks. The market in acceptances is made by bill dealers who purchase the acceptances outright from the drawers, accepting institutions, or other holders, and who distribute them to investors at slightly higher prices. While uniform rates are quoted on eligible acceptances accepted by banks of first-class credit standing, higher rates are usually quoted on bills not eligible for discount at the Federal Reserve banks and on bills accepted by less well-known banks. The buyers of bankers' acceptances are principally the commercial banks and the Federal Reserve banks and, to a minor extent, savings banks and insurance companies. The distribution of bankers' acceptances is influenced largely by market conditions. During periods of high money rates, banks reduce their holdings of acceptances in order to have funds available for other purposes and, as a result, a large part of the acceptances outstanding are shifted to the Federal Reserve banks. During periods of low money rates, on the other hand, when banks are finding it difficult to obtain profitable employment for their funds, they buy from the drawers acceptances which they have accepted and they purchase others in the open market.

Collateral loans. The collateral loan market consists largely of loans made by the commercial banks to other banks and to brokers and dealers in securities. These loans are secured by stocks and bonds and are made either on call or for a comparatively short period of time.

Banks frequently make loans to other banks that are in temporary need of funds. These loans are secured by bonds owned by the borrowing banks which are in the custody of the lending banks. Such loans are usually made by the banks in large financial centers

to outlying banks. It is customary for the smaller bank to borrow from its big city correspondent bank during periods of local seasonal demand for funds in order to finance agriculture, industry, and commerce and to repay the loan out of the funds obtained from the repayment of its customers' loans.

Brokers' loans consist of two types of collateral loans: call loans and time loans. The New York Stock Exchange and the New York Curb Exchange operate money desks where banks may offer funds on call, either directly or through an exchange member, and where member firms may apply for accommodation. Call loans are one-day loans which, if not called, are automatically renewed for another day. Time loans, on the other hand, are made for a specified period, usually three months, and cannot be called during the period, provided the borrower maintains adequate collateral. In each instance, the market value of the collateral must exceed the amount of the loan in order to provide a margin of safety for the lender. The chief lenders in the brokers' loan market are the large New York City banks. The volume of brokers' loans is influenced by conditions in the stock market, such as the degree of speculative activity and the level of security prices. The volume tends to increase with a rise in speculative interest and in stock prices and to decrease with a decline in speculative interest and in stock prices. The brokers and dealers in securities borrow in this market for the purpose of financing the margin accounts of their customers, while dealers in securities and brokerage houses which engage in the secondary distribution of securities borrow to finance the carrying of the securities in their own portfolios pending distribution to investors.

The rate structure in the brokers' loan market consists of (a) the rate on new call loans, (b) the renewal rate on call loans, and (c) the rate on time loans. Although the rates posted at the New York Stock Exchange for new call loans and for renewals are regarded as the open market rates, the rate charged by banks to brokers and dealers in government securities is lower than the official call rate.

Short-term government securities. The market in short-term government securities involves Treasury bills and Treasury certificates of indebtedness which are short-term credit instruments maturing in one year or less. Treasury bonds currently maturing within one year are also regarded by the money market as in the same category with bills and certificates. Since Treasury bills and certificates possess a high degree of safety and marketability, they

constitute an excellent medium for the investment of short-term funds by banks and other financial institutions. By the same token, member banks sell Treasury bills to the Federal Reserve banks to bolster reserves to provide funds to meet deposit withdrawals.

Federal funds. Federal funds are sight claims on the Reserve banks or the United States Treasury which are given immediate deposit credit and which consist of checks drawn on the Reserve banks, cashiers' checks of the Reserve banks, and checks of the United States Treasury. A member bank which is deficient in its reserve at the Reserve bank may temporarily increase the reserve balance by exchanging its own cashier's check for a check drawn on the Reserve bank by another bank having an excess reserve. In practice, however, the lending bank simply requests the Reserve bank to debit its account for the amount of the loan and to credit the account of the borrowing bank. The borrowing bank, in effect, obtains a one-day loan of federal funds which is repaid when its cashier's check for the same amount, plus one day's interest, is cleared and credited to the account of the lender at the Reserve bank. A federal funds market has been developed in New York by money brokers who act as intermediaries in arranging the exchange of checks.

Investment rate. The variation in the yields on securities reflects the respective degrees of risk. As a general rule, a low yield on a security reflects a high price and indicates a greater degree of safety, whereas a high yield on a security reflects a low price and indicates a lower degree of safety. Securities are usually classified, on the basis of yield, as highest grade, high grade, good, fair, and speculative.² The rate of return on any security represents two elements: cost of capital and premium for risk. However, to determine the specific degree of risk, it is necessary to know the cost of capital. Theoretically the yield on a riskless security would express the cost of capital or the pure rate of interest. In view of the fact that there is no such security, the next best criterion would be a security in which the premium for risk is negligible. Inasmuch as the premium for risk is at a minimum on United States Treasury bonds, their yield is taken as the best approximation of the cost of capital or the pure rate of interest. For example, if the longest-term United States Treasury bond is selling to yield 2.49 per cent, the

² Moody's Investor Service, for example, rates bonds as Aaa (gilt edge), Aa (high grade), A (higher medium grade), Baa (lower medium grade) and the more speculative as Ba, B, Caa, Ca, and C.

pure rate of interest is taken as approximately 2.5 per cent. Since some allowance for risk premium must be made in even the best corporate issue, under these conditions the highest-grade corporate bond should not sell to yield over 3 per cent. On this basis, and with due allowance for degrees of risk involved, the classification would read:

| | |
|-----------------------|------------------|
| Highest grade . . . | under 3 per cent |
| High grade . . . | 3-3½ |
| Good | 3½-4 |
| Fair | 4-5 |
| Speculative | over 5 |

Obviously, as market conditions change, as reflected in the yield on United States Treasury bonds, the yield range indicated above would change. Generally speaking, the premium for risk should not exceed the pure or basic rate of return. For example, with a basic yield of 2 per cent, a true investment ought not to yield more than 4 per cent.

The use of yield on a security as a criterion of investment quality is subject, however, to certain limitations. Because of the contingent nature of dividends and the greater influence of speculation, yield is less reliable as a criterion of investment quality for stocks than for bonds. Even in bonds, the use of yield is restricted by such features as marketability, maturity, qualification as "legals," tax position, redemption option, and conversion privilege. A security with a high degree of marketability usually sells at a higher price and yields a lower rate of return than a security with a lower degree of marketability. Inasmuch as a security with an earlier maturity is more liquid and less subject to future contingencies than a security with a later maturity, the former usually sells at a lower yield. Securities that are eligible for purchase by fiduciary investors (savings banks, trustees, and life insurance companies) enjoy an artificial market and for this reason sell at low yields. The income tax liability exemption enjoyed by some securities accounts for their higher price and lower yield. Inasmuch as the call price of a redeemable bond tends to set a ceiling to its market price, a callable bond may sell at a higher yield than an equally good non-callable bond. In like manner, a convertible bond may sell at a lower yield than other equally good non-convertible bonds of the same issuer.

Marketability. Marketability in a security refers to the degree of readiness with which it may be converted into cash without sacrifice of value. Marketability, like safety, is a relative term.

Securities are not classified as marketable or non-marketable but rather according to the degree of marketability. The degree of marketability may be measured by the ease with which a quotation can be secured on the security, by the spread between the bid and asked prices, and by the volume available. The greater the ease in obtaining the quotation, the narrower is the spread; the greater the volume available, the greater is the degree of marketability.

The degree of marketability in a security is affected by such factors as popularity, listing, distribution, eligibility for purchase by fiduciary investors, seasoning, and tax-exempt privilege. Stocks are popular in a period of prosperity just as bonds are popular in a period of depression. Popular interest in the securities in one field may be rising at the same time that interest in the securities in another field may be declining. A traditional phenomenon of a major upward movement in the market is the rotation in leadership from one group to another. After entering new high ground, one group often recedes on profit taking and at least temporarily becomes inactive. Such switching of interest often arises from the fact that investors, statisticians, and traders who are watching the market often find groups which they believe are behind the market as a whole. For example, when the market advance in a recent year was largely in automotive, radio, and amusement stocks, traders were looking into chemical, copper, oil, airplane manufacturing, rail, and rail equipment stocks in the search for laggards. A similar phenomenon, but in reverse, often marks a bear market. Sometimes, however, this practice results in unprofitable buying or selling, as often there are good reasons why some groups fail to rise or fall as fast as the "averages."

Securities listed on an exchange are generally considered more marketable than those traded over-the-counter. A large issue is usually more widely held than a small issue. Securities issued by strong companies generally have a high degree of marketability. Since financial institutions are collectively the largest buyers of securities, issues that are eligible for purchase by them enjoy a very high degree of marketability. Securities that have been outstanding for some time and have established their market are regarded as "seasoned" and enjoy greater price stability and hence marketability than new issues. The so-called "blue chips" of today were the speculative securities of obscure companies in earlier years. As they went through the process of achieving nationwide distribution and recognition and as the soundness of the companies was more

generally recognized, the securities attained the status of "blue chips." Securities enjoying income tax liability exemption have an especial appeal to wealthy investors and, as a result, have a high degree of marketability.

An adequate degree of marketability is significant to all investors, since emergencies may arise that would require immediate liquidation of security holdings. Marketability, however, "costs money" in that the more marketable the security, the higher is the price and the lower is the yield. Thus it is not logical for an investor to purchase a higher degree of marketability than he needs.

Tax position. Taxation of income and of capital gains has become a very important consideration to the investor. Investors are subject to federal and, in some cases, state taxes on income. In addition, estates are subject to taxation by both federal and state governments. A federal tax is levied on personal incomes and on the income from trusts and estates. The total federal income tax consists of a normal tax and a surtax. Both taxes are based upon the taxable net income but differ in respect to exemptions and rates.

The taxable net income includes capital gains on such capital assets as stocks, bonds, and other securities held for investment or speculation, on land, or on any other property owned by the investor, with certain exceptions. A distinction is made between a short-term capital gain and a long-term capital gain. This distinction is important to the investor, since a short-term gain is subject to heavier taxation than a long-term gain.

Although the income from most bonds is taxable, some bonds—municipals—are tax exempt, i.e., the interest thereon is not subject to federal income taxes under present laws and, in most instances, is not subject to state income taxes in the state in which the issuing authority is located. The fact, therefore, that some bonds are taxable while others are tax exempt presents a problem to the investor. In considering the two types of bonds, the investor must give consideration to the greater yield required on a taxable bond to yield, after taxes, a return comparable to that on a tax exempt bond. For example, under the 1950 tax schedule, in the \$14,000 to \$16,000 taxable income bracket a tax exempt bond yield of 2.65 per cent is the equivalent of a 5.0 per cent yield on a taxable security.

Investors must also consider the federal and state estate taxes. The federal tax is upon the transfer of the property and applies even though the property itself is free from all taxation or is not subject to taxation by the federal government. It is payable on

the net estate, which is the excess of the gross estate over certain allowable deductions specified in the law. A credit is allowed for estate and inheritance taxes paid to states, but this credit may not exceed 80 per cent of the federal tax. The federal government also imposes a tax on gifts, whether in trust or otherwise, direct or indirect, and whether the property is real or personal, tangible or intangible. A transfer for an inadequate consideration is treated as a gift to the extent of the inadequacy. In addition, many states also impose an estate tax.

Investment timing. Investment timing involves two factors: when to buy or sell and at what price to buy or sell. Investment values are affected by changing business conditions. Regardless of the inherent quality of a security, its purchase is not advisable at all times and at all prices. The swing of the business cycle through the successive stages of prosperity, liquidation, depression, and recovery is continuous and inevitable. Stock prices are influenced primarily by corporate earnings, rising as corporate earnings increase and declining as earnings fall. Obviously, the purchase of common stocks in the latter part of a period of prosperity is inviting the disaster that comes with liquidation and depression.

Changes in the prices of high-grade bonds are influenced largely by the trend of interest rates. Bond prices decline as interest rates rise and rise as interest rates decline. A high-grade bond with a coupon rate of $4\frac{1}{2}$ per cent is worth par in a $4\frac{1}{2}$ per cent market, more than par in a 4 per cent market, but less than par in a 5 per cent market. For this reason, for example, the purchase of a relatively short-term bond is more advisable than a long-term bond when interest rates are abnormally low. Such purchase is based upon the fact that (a) the closer a bond is to its maturity, the more stable is its price, and (b) the inevitable rise in interest rates will cause bond values to decline. The longer the maturity of a high-grade bond, the greater will be its relative decline in value. For example, a $3\frac{1}{2}$ per cent bond is worth par in a $3\frac{1}{2}$ per cent market. Should the market rate rise to $4\frac{1}{2}$ per cent, however, the $3\frac{1}{2}$ per cent bond would decline in value. The extent of the decline in value is influenced by the maturity of the bond as evidenced by the following table, which indicates that the longer the bond has to run to maturity, the greater is the percentage decline in value:

| <i>Maturity</i> | <i>Value</i> | <i>Percentage Decline</i> |
|-----------------|--------------|---------------------------|
| 10 years | 92.02 | 7.98% |
| 15 " | 89.18 | 10.82 |
| 20 " | 86.90 | 13.10 |
| 30 " | 83.63 | 16.37 |

Low-grade and speculative bonds normally tend to move in response to the business cycle. When investors are optimistically confident about the general business outlook, they tend to consider junior bonds as being nearly as safe as those that are fully secured by first mortgages on highly valuable properties. Under those conditions, prices of second-grade bonds are bid up until their yields are not much greater than those of the highest-grade bonds. On the other hand, when the prospects for business become discouraging, investors seek safety rather than income, and then the prices of the second-grade bonds fall far below those of the highest-grade issues; and, as a result, the yields of the less-secured bonds become much larger than those of the well-secured bonds. When confidence was at its height in 1927, bond prices were high and yields were low. The combined yield of thirty highest-grade issues was 4.46 per cent while that of thirty second-grade issues was 5.32 per cent. At the bottom of the depression in 1932 both classes of bonds had suffered declines in price, but the decline in prices of the second-grade bonds was so much greater than those of the highest-grade bonds that their yields were over twice as great as those of the highest-grade bonds.

Market quotations are influenced by three factors: (a) fundamental conditions, (b) technical position, and (c) psychological considerations. Fundamental conditions include the state of business, earnings, dividends, financial positions, management, and money rates. The technical position of the market refers to the tendency for the market to be either over-bought or over-sold. A protracted rise or fall in the market has a tendency of carrying too far with the consequent corrective movement. An over-bought market is the result of substantial buying which has carried prices higher than justified. It is technically weak and subject to a corrective movement. On the other hand, an over-sold market is the result of substantial selling which has carried prices lower than justified. It is technically strong and subject to a corrective movement. Psychological considerations reflect the general feeling of confidence or the other extreme, apprehension. At one time technical position may dominate the market regardless of the fundamental state of affairs, while at another time psychological considerations may bear the greatest weight.

As there is a time to buy, so likewise is there a time to sell. Sales as well as purchases must be timed. Timing has been aptly described as follows:³

³ Merrill, Lynch, Pierce, Fenner & Beane, *Security and Industry Survey*, May, 1945.

For every investor, sound investment procedure requires a series of separate but related decisions in each of which "risks and rewards" must be weighed. Of these decisions, all investment experience proves that "when to buy" ranks equally in importance with "what to buy." Similarly, the alert investor will recognize that there is no security which can be "bought and forgotten" and that successful investment requires keen judgment in timing sales as well as purchases.

Dow theory. The Dow theory, which is based on the assumption that the stock market is an excellent barometer of business, seeks to interpret changes in the industrial and railroad stock price averages as reflecting fluctuations in business.⁴ It holds that at any moment the market is a composite resultant of (a) the major trend, which is either up or down, (b) the intermediate movement, which is either toward or away from this trend, and (c) the day-to-day fluctuations. A major trend has a duration of about nine months to two years and is either a bull or a bear trend. In a bull trend each succeeding high point in the averages is higher than the preceding high, while in a bear trend each succeeding low point in the averages is lower than the preceding low. The major trend will be corrected from time to time by an intermediate movement which will carry a bull market down or a bear market up for a short time. The longer a major trend proceeds without an intermediate movement the more imminent the correction becomes. Although the day-to-day fluctuations reflect the constant flux of the market, they are not indicative of any fundamental change.

In every major movement the industrial and railroad stock price averages confirm one another. In a bull movement if one average makes a new high, the bull trend is confirmed by a new high for the other average. By the same token, if in a bear movement one average makes a new low, the bear trend is confirmed by a new low for the other average. If, however, either average consistently fails to confirm the other, the major movement is at an end. The Dow theory does not attempt to predict movements of security prices for traders by forecasting the market, but rather seeks to discern changes in the longer-term aspects of the business cycle by determining that a change in the movement of the market has occurred.

Formula-timing. The determination of when to buy and when to sell stocks and bonds is sometimes based upon formula-timing plans.⁵

⁴Dice, Charles A. and Eiteman, Wilford J., *The Stock Market*, McGraw-Hill Book Co., Inc., New York, 1941, Chapter XXIV, contains a good discussion of the Dow theory.

⁵Tomlinson, Lucile, *Successful Investing Formulas*, Barron's Publishing Company, Inc., New York, 1947, gives a comprehensive discussion of formula-timing.

Formula-timing plans have been developed most extensively by such institutional investors as colleges, insurance companies, and investment companies. These plans are based upon the assumption that: (a) no satisfactory and successful method of market forecasting has been developed; (b) bonds provide the best defense against market declines, whereas stocks provide the best opportunities in a market rise; (c) stocks will continue to fluctuate, and to fluctuate more widely than bonds; and (d) it is wise to buy stocks when stock prices are low and to sell stocks when stock prices are high. These plans are not attempts to forecast the market but rather to eliminate the emotional factor from investing. They represent a method of determining the shift of the fund from bonds to stocks or from stocks to bonds and the proportion of each class of security to be held at any one time. Formula-planning seeks to force the purchase of stocks when stock prices are relatively low, and the taking of profits by selling stocks when stock prices are relatively high. Most plans divide the fund into two parts: the stock account and the bond account. Common stocks, defaulted bonds, and non-dividend paying preferred stocks constitute the stock account, whereas high-grade bonds, preferred stocks, and cash constitute the bond account. The stock account is designed for profit possibilities and the bond account for relative stability. Although a plan, when once adopted, eliminates further judgment on the timing of aggregate purchases and sales, it does not remove the need for care in the selection of securities nor for continuous supervision of the fund. It is still necessary to carefully select the specific stocks and bonds to be held, to determine the appropriate change from one security to another in the same classification, and to properly diversify the fund.

Formula-timing plans are adaptations of the principle of equalizing, under which the proportions of stocks and bonds in an investment fund are varied as security prices rise and decline. Under equalizing, the fund is started at a selected ratio, say, 50 per cent in common stocks and 50 per cent in bonds. In a declining market when stocks have declined 20 per cent, the fund may be equalized by selling bonds and buying stocks in sufficient amounts to bring the fund back to the 50/50 stock-bond ratio. In a rising market, at each rise of 25 per cent, the fund may be equalized by selling stocks and buying bonds. Formula plans are based upon percentage changes rather than on changes in number of points. The fund will have approximately the same percentage in stocks at the top of a rise as at the bottom of a decline, but it will contain fewer

shares at the top than at the bottom. Equalizing seeks to preserve the capital investment. It endeavors to avoid the danger of rising-market optimism and declining-market pessimism by forcing the sale of stocks in rising markets and their purchase in declining markets. At the same time it seeks to produce adequate income by forcing the sale of stocks at high levels when their yields are low and their purchase at low levels when their yields are high.

The timing controls may be divided into two types: constant-ratio and variable-ratio. Based upon the investor's need for capital stability, income, and appreciation possibilities, the constant-ratio type makes two basic assumptions: (a) a normal ratio of common stocks to total assets and (b) a required percentage change in the market before common stocks are bought or sold. Under this plan, when the market rises the required percentage, enough stocks are sold and bonds bought to bring the fund back to the original ratio, and when the market declines the required percentage, enough bonds are sold and stocks bought to return the fund to the original ratio. For example, one institutional investor, who has followed the constant-ratio method, has assumed a normal ratio of 30 per cent in common stocks and 70 per cent in high-grade bonds and preferred stocks. In a rising market the common stock portion is not reduced until it reaches 40 per cent and the bond and preferred stock portion 60 per cent of the total. When these percentages are reached the fund is cut back to 35 per cent and 65 per cent respectively. If the market continues to advance and the 40/60 ratio is again reached, the process is repeated. On the other hand, if the market declines so that the ratio is 20/80, enough bonds and preferred stocks are sold and common stocks bought to bring the ratio back to 25/75. If the market continues to decline, the process is repeated. No sales are made of the stocks bought until the ratio reaches 40/60.

The variable-ratio plan is based upon (a) the selection of a market level in terms of a market index which is assumed to be normal and (b) a proportion of stocks which is considered suitable at this level. At various predetermined points above that level, stocks are reduced to a lower percentage, and, conversely, at predetermined point below the "normal" level, the stock proportions are increased. Under this plan the percentage of the stock account to the bond account depends entirely upon the fluctuations of the market index. One institutional investor, who has followed the variable-ratio method, takes an average monthly median price on

the Dow-Jones industrial average as the point above which no stocks would be purchased. When the average reaches this point on a down trend, the fund is invested 50 per cent in common stocks and 50 per cent in bonds. The commitment in stocks is increased at an increasing rate as the average further declines. Stocks acquired during the period when the average is below the selected point are not sold until the average reaches a selected higher point on the next upswing. As the average rises above this point the percentage of stocks is reduced on a sliding scale. For example, assuming a Dow-Jones industrial average of 145 as the median, a rise in the industrial average would be followed by a reduction in the percentage of the fund in common stocks as follows:

| <i>Dow-Jones Industrial Average</i> | <i>Percentage of Stocks</i> | <i>Fund in Bonds</i> |
|---|---------------------------------|--------------------------|
| 160 | 35 | 65 |
| 176 | 18 | 82 |
| 194 | 0 | 100 |

In like fashion, a decline in the industrial average would be followed by an increase in the percentage of the fund in common stocks as follows:

| <i>Dow-Jones Industrial Average</i> | <i>Percentage of Stocks</i> | <i>Fund in Bonds</i> |
|---|---------------------------------|--------------------------|
| 145 | 50 | 50 |
| 130 | 65 | 35 |
| 117 | 82 | 18 |
| 105 | 100 | 0 |

The formula-timing plans basically are attempts to adapt the portfolio to changing market conditions in accordance with a prescribed formula.

Investment program. Investors may be divided roughly into two classes: institutional and individual. The former consist of trustees, savings banks, commercial banks, life insurance companies, and fire and casualty insurance companies. They comprise the most important part of the investment market. Because of their fiduciary position, their investment policy is subject to state supervision, except in the instance of national commercial banks, which are subject to supervision by the federal government. The individual investor, on the other hand, is unrestricted by law and free to select any security he desires.

As a general rule, however, the degree of success achieved in the investment of funds varies directly with the care exercised in the

selection and supervision of the securities. The formulation of an investment program for any investor, institutional or individual, involves (a) the determination of the investor's investment objective, (b) the selection of the securities in conformance with that objective, and (c) the supervision of the fund.

Institutional Investors

Trustees. A trust fund is administered by a trustee appointed by the maker of the trust. The parties to a trust are the trustor or maker, who creates the trust, the trustee into whose hands the management of the trust is entrusted, and the beneficiary for whose benefit the trust is established. There are four essential elements of a valid trust of personal property: (a) a designated beneficiary, (b) a designated trustee who must not be the beneficiary, (c) a fund or other property sufficiently designated or identified to enable title thereto to pass to the trustee, and (d) the actual delivery of the fund or other property or of a legal assignment thereof to the trustee, with the intention of passing legal title thereto to him as trustee.⁶ The beneficiaries under a trust fund may be classed as life-tenant and remainderman. The life-tenant is entitled to the income from the trust during the life of the trust, and the remainderman is entitled to the principal upon termination of the trust. A trust may be a voluntary (living) trust or a testamentary trust. The former becomes operative at any time; the latter is created by a will and comes into operation upon the death of the trustor.

The trustee appointed under a deed of trust may be either a personal trustee or a corporate trustee. Although a personal trustee has a degree of personal interest in the trust fund not generally found in a corporate trustee, the appointment of a personal trustee involves such limitations as limited financial responsibility and the contingency of death, absence, or incapacity. As a result of those disadvantages and the increasing complexity of security investment, the trend in recent years has been toward the appointment of a corporate trustee.

The investment policy of a trustee under a testamentary trust is guided by such provisions as the creator of the trust laid down in the documentary instructions. The instructions of the trustor must be followed, but in some cases they have handicapped the

⁶ Brown v. Spohr, 180 N. Y. 201 (1904).

trustee in effective management of the fund. Such restrictions have taken many forms, such as limiting the investments to the bonds of a specific industry, or requiring the retention of certain securities which prudence would dictate selling, or omitting to give the trustee power to purchase certain securities which in his judgment would be appropriate in the light of current investment conditions. The sole recourse of the trustee is to the courts for relief.⁷

In the absence of documentary instructions, the trustee is bound by the laws governing the investment of trust funds effective in the state of jurisdiction. Most states, including New York, provide that where the trustor does not specify the type of securities to be held, the trustee must invest in "legal" issues. The law of the state specifies the qualifications that a security must possess to be eligible for the investment of trust funds. A list of such "legal investments" is generally promulgated by a responsible state official and is applicable to savings banks and trustees.⁸ The General Banking Law of New York State (Section 35), for example, requires the Superintendent of Banking to compile and publish, not later than July 1 of each year, a list of state, municipal, railroad, gas, electric, and telephone obligations which, if legally issued and properly executed, conform with the provisions of the law.

In some instances, the trustee has discretionary powers which arise either from the deed of trust or by virtue of the absence of both documentary instructions and a state law governing the investment of trust funds. Discretionary trusts are those which give to the trustee full discretion in the retention or sale of any securities received at the time the trust was created and in the subsequent purchase and sale of securities. On the other hand, in the absence of documentary instructions and a state law governing the investment of trust funds, the trustee may exercise broad discretionary power. In a discretionary trust or one giving rise to discretionary powers, the trustee is not restricted to "legal" investments; he is required nevertheless, in most states, to "conduct himself faithfully and exercise a sound discretion." This is known

⁷ The trustees of Leland Stanford University petitioned the Superior Court in the State of California, in 1936, for leave to invest in common stocks. While there was no specific prohibition against that type of security, the trustees felt that they might be excluded by the nature of the trust itself. Influenced perhaps by the popular belief in 1936 that a hedge against inflation of commodity prices was desirable, the court granted the petition.

⁸ See page 189 for qualifications of securities eligible for investment by savings banks.

as the "American rule," which was expressed by the court as follows:

He is to observe how men of prudence, discretion and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income, as well as the probable safety of the capital to be invested⁹

The trustee is financially as well as morally obligated to fulfill his trust. He is personally responsible for his acts and may be surcharged for any losses in the trust fund arising from carelessness or fraud. His liability extends to losses to the trust fund incurred by either investing in securities other than those authorized by the deed of trust or, in the absence of instructions, in securities other than those authorized by law. The trustee cannot even follow the "legal list" blindly. If a security is included in the list in error or if the status of the security changes, the trustee cannot set up the defense that the security was on the legal list. The list is merely suggestive and is provided as a courtesy. The law in New York State, for example, specifically provides that "the superintendent shall be in no way liable for the omission from or inclusion in such list of the name of any state or municipality or of any bond or obligation." The trustee, however, is liable if the law is not strictly complied with, regardless of the acts of a state official in compiling such a list.

The investment problem of a trustee is complicated by the fact that he must give consideration to the interests of the trustor who created the trust, the life-tenant who is entitled to the income from the trust and the remainderman who will receive the corpus of the trust at the expiration of the trust. These interests frequently conflict. The life-tenant usually desires as high a rate of return as might reasonably be expected, whereas the remainderman wishes the original principal kept as nearly intact as possible. The trustee is faced with the problem of following a middle course, concentrating neither on the highest-grade issues with low yield to the detriment of the life-tenant nor on the low-grade issues with high yield to the disfavor of the remainderman. In general, the objective of the trustee is preservation, not accumulation.

Two special types of trust which have become increasingly popular are the life insurance trust and the common trust. The life insurance trust is one under which the proceeds of life insurance

⁹ *Harvard College v. Armory*, 9 Pickering 446 (1830) Some twenty States have adopted this rule, variously known as the Massachusetts or "prudent man" or "American" rule.

policies form the corpus of the trust which is entrusted to a trust company as trustee for the benefit of the beneficiary under the policies. A common trust is one in which several small trusts, which suffer the handicap of relatively high costs of administration and inadequate diversification, are combined under the law of the state for the purpose of attaining economy and efficiency in administration. In New York State the maximum participation of any one fund is restricted to \$100,000, and funds may not participate in a common trust if any assets in the trust are illegal for the fund to hold, nor may the common trust invest in securities not eligible for purchase by savings banks.

Savings banks. Savings banks have been established to safeguard the savings of people of limited means. The state laws under which mutual savings banks operate generally specify a limit to the total deposit which these banks may accept for an individual savings account. New York State, for example, sets the limit at \$10,000. This limitation is designed to assure that only authentic savings accounts will be received and to safeguard the banks against a sudden sharp contraction of deposits.¹⁰

Inasmuch as a mutual savings bank has no stockholders, all of the assets belong to the depositors. The earnings are used (a) to pay operating expenses, taxes, and deposit insurance charges; (b) to provide surplus for the protection of the depositors' savings; and (c) to pay dividends on deposits.

The deposits in a savings bank are time deposits; that is, depositors may withdraw deposits only by giving the bank advance notice, which ranges from 30 to 90 days in the various states. For this reason, savings banks invest in long-term obligations of limited marketability which are adequately safe and which yield a higher rate of return than is normally obtained from short-term liquid obligations. Savings banks are permitted by law to invest only in "legal investments." The specific qualifications which a security must meet to be classed as a "legal investment" differ in the various states, but the common attribute sought in the securities is safety of principal. New York State is considered to have the highest standards of eligibility and has more or less set the pattern for other states. In New York State the legal list consists of United States Government obligations; state and municipal bonds; bonds and

¹⁰ This restriction may be circumvented to some extent by individuals who establish accounts either in the same bank in the name of different members of the family or in different banks in their own name.

mortgages on real estate; New York State and Federal Land bank bonds; Federal Home Loan bank bonds; Housing Authority bonds; railroad, electric, and gas company, telephone company, and industrial company bonds; and bankers' acceptances.

Savings banks may invest in the obligations of the United States Government for which the faith of the government is pledged to provide for the payment of principal and interest. Obligations of New York State which have been legally issued are eligible. Obligations of other states are eligible provided the state has not been in default in its bonds since 1878. Bonds of the state of Arkansas, for example, were removed from the "legal list" on December 1, 1933, after the state had defaulted on its obligations.

The direct obligations of municipalities in New York State are eligible. Obligations of municipalities in adjoining states are eligible provided the municipality (a) has a minimum population of 10,000; (b) had no default for more than 120 days in the payment of either interest or principal within the past 25 years; and (c) has a debt ratio not in excess of 12 per cent. Obligations of municipalities in other states are eligible provided the municipality (a) has a minimum population of 30,000; (b) has been incorporated for at least 25 years; (c) has had no default for more than 120 days in the payment of either interest or principal within the last 25 years; and (d) has a debt ratio not in excess of 12 per cent. Municipalities with a population of less than 45,000 must not have a tax limit. Those with a population of at least 250,000, assessed valuation of at least \$200,000,000, and no tax limit are not subject to the debt-ratio restriction. Bonds issued after December 31, 1938, by a municipality must not be subject to any tax-limit legislation which does not exclude debt service.

Railroad mortgage bonds including equipment trust obligations, direct or assumed, of certain domestic railroads are eligible provided the company (a) has at least 500 miles of line; (b) has had revenues of at least \$10,000,000 each year for at least five out of the last six years; (c) has earned fixed charges at least $1\frac{1}{2}$ times in the previous year and in five out of the last six years; (d) has paid cash dividends equal to one quarter of the fixed charges or, if no dividends were paid, earned fixed charges at least $1\frac{1}{2}$ times in the previous year and in nine of the last ten years; and (e) has had no default in the past six years. Debenture bonds are eligible provided the company has (a) earned fixed charges at least twice in the previous year and in five out of six previous years, and (b) a

net income of \$10,000,000 after all charges have been deducted. Collateral trust bonds are eligible provided they (a) are secured by bonds which are legal investments, (b) have a maturity of the collateral not earlier than the maturity of the collateral trust bond, and (c) have a total face amount greater than that of the collateral.

Mortgage bonds of certain domestic electric and gas companies are eligible provided the company has (a) annual operating revenue of at least \$1,000,000, (b) earned fixed charges at least twice in the previous year and on an average basis for the last five years, and (c) a balance available for dividends of at least 4 per cent on two thirds of the funded debt. Those bonds must be part of a minimum issue of \$1,000,000 and represent a first or refunding mortgage not exceeding 60 per cent of the value of the physical property pledged.

Mortgage bonds of certain domestic telephone companies are eligible provided the company (a) has annual operating revenues of at least \$5,000,000; (b) has earned fixed charges at least twice in the previous year and on an average basis for the five previous years; and (c) has a balance available for at least 4 per cent on the outstanding stock. The bonds must be part of a minimum issue of \$5,000,000 and represent a first or refunding mortgage not exceeding 60 per cent of the value of the physical property pledged.

Industrial bonds became eligible for the first time in 1938 as the result of an amendment to the law. Twenty savings banks, or a savings bank trust company all of whose stock is owned by at least twenty savings banks, may recommend to the State Banking Board the admission to the list of a specific industrial bond.¹¹ The bond may be declared eligible by a two-thirds vote of the Board. Any authorization may be revoked, however, by a majority vote. In 1945 some thirty industrial bonds were eligible by authorization of the New York State Banking Board.

Bonds and mortgages on unencumbered real estate situated in New York State are eligible provided the mortgage does not exceed 60 per cent of appraised value on non-residential property and 66 $\frac{2}{3}$ per cent on residential property, with the exception of bonds and mortgages insured by the Federal Housing Administration. Savings banks are also permitted to invest in housing corporations formed to undertake multi-family projects. Under regulations prescribed by the State Banking Board in 1945 (a) every project

¹¹ The Banking Law of New York State provides for a Banking Board consisting of nine members and a Superintendent, who is chairman and executive head.

must be a multi-family rental housing project designed to accommodate not less than 250 families at an average rental of not more than \$25 a room a month; (b) at least three savings banks must participate in every undertaking; (c) no one savings bank can finance more than 40 per cent of the total cost of any one project; (d) no savings bank can invest an amount greater than 1 per cent of its assets or 10 per cent of its surplus in any one project; (e) savings banks must amortize their investment at the rate of at least $2\frac{1}{2}$ per cent a year; (f) no housing corporation can undertake more than one housing project; and (g) housing projects can be undertaken by savings banks only in real property owned in fee.

In 1947 certain Canadian issues were made eligible and in 1949 savings banks, but not trust funds, were permitted to purchase corporate interest-bearing securities not on the legal list which had a maturity of not less than five years or serials of an average maturity of not less than five years.

In 1952 savings banks were authorized to invest up to 5 per cent of a bank's assets or up to 50 per cent of its surplus and undivided profits, whichever is smaller, in common and preferred stocks that are listed on a national securities exchange and have shown sustained earning power for ten years. A bank may not invest in more than 2 per cent of a corporation's outstanding stock nor have more than 1 per cent of its assets in the stock of any one corporation. On the other hand, trust funds in New York State may invest in the preferred and common stocks of corporations domestic to the United States provided that (a) the total of such investments does not exceed 35 per cent of the market value of the trust fund, and (b) the stocks (banks and insurance stocks excepted) are listed on a national securities exchange.

Since 1946 savings banks in New York State have been authorized to purchase the obligations of the International Bank for Reconstruction and Development.

The list of eligible securities is changed from time to time. Securities which are not on the list but which have become eligible are added to the list and other securities which are on the list but which because of changes in the condition of the issuer are no longer eligible are removed from the list.¹² Banks holding a security that is removed from the list are restrained from further pur-

¹² Eligible securities that have been called for redemption or that have matured are removed from the list as a matter of course.

chases of the security and are given a reasonable time in which to dispose of current holdings of the security.

The New York law is regarded by many as the most modern of the savings bank investment statutes; nevertheless, experience has demonstrated that changing conditions affect investment values. The evolution of the legal list has involved a widening of the selection of eligible securities and a continuous revision of the required qualifications. During the period 1863-1893 eligible investments were limited to securities of the United States, New York State and other states, and New York State municipalities, and to bonds and mortgages on improved New York real estate. Issues of a few specifically named cities outside of New York State were added to the list in 1893. Specifically named railroad bonds first became legal in 1898. The practice of naming the particular municipal or railroad bond ceased in 1905 and a general law was passed authorizing investment in the bonds of all cities and railroads which complied with the specific requirements set forth in the law. Public utility bonds and railroad equipment issues became eligible in 1928. In 1938 eligibility was given for the first time to securities of any sort approved by the Banking Board. Under this provision certain public utility and industrial debentures have since been legalized by action of the Board. At various times certain obligations of tax districts, authorities, land banks, mortgage banks, Federal Housing Administration as well as bankers' acceptances and certain real estate bonds have been made eligible by special acts.

The qualifications for eligibility have also been the subject of revision. The municipal subdivision was rewritten in 1928 and the railroad subdivision in 1929, both revisions involving a radical change in the fundamental principles governing the selection of eligible securities. To prevent decimation of the list in 1931, the criteria applicable to eligible railroad investments had to be suspended. Again in 1938 the less favorable conditions under which the railroads were operating made it necessary to reduce the requirements applicable to new investments in railroad bonds.

The Banking Law of New York State requires the Superintendent of Banks to mail to each savings bank annually a list of the securities which, in his judgment, if legally issued and properly executed, conform to the legal requirements for savings bank investment. The fact that a security appears on the list, however, does not indicate that the Banking Department considers it a

proper investment, under all circumstances, for the funds of any individual savings bank. The purchase of any particular security on the list is a matter for each bank to determine. It is the intention of the law to give only a list of bonds which are legal at the time the Superintendent of Banks makes his investigation. The Superintendent is in no way liable for the omission from or inclusion in the list of the name of any state or municipality or of any bond or obligation. The trustees of a savings bank are not relieved of the duty of making a careful investigation on their own part into the legality of the issues which appear on the list.

The Bowery Savings Bank, on a recent date, had deposits of \$904,341,012, representing the savings of 518,074 depositors, and a surplus at book value of \$87,211,758. The nature of the investments of the bank was illustrated by the following statement of assets:

| | | |
|---|---------------|---------------|
| Cash in our vaults and on deposit with banks and trust companies.... | | \$ 32,860,752 |
| Bonds: | | |
| United States Government .. | \$298,511,800 | |
| United States Government Agencies... | 6,065,000 | |
| Canadian .. | 1,883,280 | |
| International Bank for Reconstruction and Development .. | 15,700,104 | |
| Municipal... | 150,000 | |
| Railroad .. | 35,940,977 | |
| Public Utility..... | 20,331,650 | 378,582,811 |
| F.H.A. Modernization Loans. | 5,309,753 | |
| F.H.A. Insured Mortgage Loans..... | 355,783,269 | |
| Mortgage Loans to Veterans..... | 40,122,673 | |
| Mortgage Loans on Real Estate (less reserves)..... | 156,354,360 | |
| Stocks and Obligations of Housing Corporations..... | 3,041,511 | |
| Banking Houses..... | 6,831,978 | |
| Other Real Estate. | 922,268 | |
| Savings Banks Trust Co.—International Securities Corporation Stocks and Debentures .. | 10,840,000 | |
| Savings Bank Life Insurance—Certificates of Investment.. | 98,000 | |
| Interest Due and Accrued..... | 4,616,298 | |
| Other Assets..... | 2,142,476 | |
| Total..... | | \$997,506,149 |

Commercial banks. Commercial banks, in contrast to savings banks, receive both time and demand deposits. Demand deposits represent approximately 75 per cent of the total deposits of commercial banks. The large demand deposits held by commercial banks makes it necessary for the banks to maintain a higher degree of liquidity of assets than savings banks.

The basic responsibility of a commercial bank is threefold: (a)

to maintain a reasonable degree of liquidity for the protection of the depositors; (b) to earn a reasonable return on the capital investment of the stockholders; and (c) to meet the legitimate credit needs of the community. The investment policy is influenced by three factors: (a) deposits; (b) bank capital, and (c) loan position. The demand deposits represent those of individuals, business organizations, institutions, trust funds, and governments. These deposits differ in the degree of stability, the deposits of large corporations being the least stable. The degree of liquidity required in the employment of the deposits is influenced in large part by the extent of fluctuation in deposits. In general, a bank with a relatively stable deposit structure (made up largely of deposits of individuals and small businesses) is justified in having a longer-term investment program than a bank with a less stable deposit structure (made up principally of large commercial accounts).

The capital accounts (capital, surplus, and undivided profits) belong to the stockholders and provide a margin of protection for the depositors. This margin permits the bank to assume moderate risks in the employment of the depositors' money and is a major consideration in the determination of the investment policy. In general, a bank with large capital is justified in assuming greater risks, both creditwise and in length of maturity, than a bank with limited capital.

The loan position refers to the amount and kinds of loans outstanding. If the bank has a large loan portfolio and is making term and other loans in which there is a distinct credit risk, it is necessary to keep the risk element in the investment program at a minimum. On the other hand, if the loan position is relatively small and the opportunity for making loans is limited, a more aggressive investment policy is warranted. In any event, the investment policy should be flexible and care should be taken to avoid an investment position which would at any time limit the bank's ability to make sound business loans.

The investments of commercial banks are subject to regulation by the Comptroller of the Currency in the instance of banks which are members of the Federal Reserve System or by the state authority in the instance of state banks which are not members of the Federal Reserve System. In general, commercial bank investments are restricted to bonds and to a maximum of 10 per cent of capital and unimpaired surplus in the securities of any one issuer. The regulations of the Comptroller of the Currency require that bonds

purchased by member banks must be marketable according to the following definition:

Under ordinary circumstances, the term "marketable" means that the security in question has such a market as to render sales at intrinsic values readily available.

The minimum requirements for marketability are: (a) the issue is sufficiently large to make marketability possible; (b) public distribution of the security either has been provided for or made in a manner to protect or insure marketability, or other existing securities of the issuer have such a public distribution as to protect or insure the marketability of the issue under consideration; and (c) the security is registered under the Securities Act of 1933, unless exempt. If the security is issued under a trust agreement, the agreement must provide for a bank or trust company as trustee who is independent of the obligor.

A joint statement of agreement of revision of the procedure in bank examinations has been issued by the Secretary of the Treasury, the Board of Governors of the Federal Reserve System, the Directors of the Federal Deposit Insurance Corporation, and the Comptroller of the Currency. The section relating to the appraisal of bonds provides for four divisions. Group I, consisting of marketable obligations in which the investment characteristics are not distinctly or predominantly speculative, includes securities of the four highest grades and unrated securities of equivalent value, which are valued at cost less amortization, if any. Appreciation or depreciation in market value is disregarded. Group II, comprising securities in which the investment characteristics are distinctly or predominantly speculative, includes securities below the four highest grades and unrated securities of equivalent value, which are valued at the average market price for the eighteen months just preceding the examination. Group III consists of securities in default which are valued at the lower of cost or market. Group IV consists of stocks, valued at the lower of market or cost.

The investments of state banks that are not members of the Federal Reserve System are supervised by the state of incorporation.

Life insurance companies. Life insurance companies underwrite risks for which they are paid premiums. If all policies were written on the basis of yearly renewal term insurance, there would be no important investment problem, because theoretically the amount of annual premiums paid by the policyholders would equal the total amount of annual death claims among the policyholders and

the annual expenses. The cost of insurance for each policyholder, under this plan, would increase each year and in the later years of the policyholder's life would become prohibitive. Under the present practice, however, the policyholder pays the same gross premium for his insurance each year. In the earlier years he is paying substantially more each year than the actual cost of his insurance based on his expected mortality for each of those years, whereas in the later years he is paying substantially less than the actual cost. In the earlier years the excess payments included in the annual premium are invested and the interest earned set aside and reinvested to defray the deficit in his payments in the later years. It is this constant accretion of funds from level premium receipts and from interest earned on these funds which creates one of the major financial problems for life insurance companies. They must set up reserves over an extended period to meet death claims, endowment maturities, or annuities. Since their liabilities are essentially long-term, in general they have followed an investment policy of selecting long-term issues. A high degree of marketability in a security is not especially necessary because of the steady receipt of cash by the company in the form of premium payments and investment income. In addition, the well-spaced arrangement of maturities of investments provides adequate cash holdings at all times. Changes in the purchasing power of the dollar do not affect the payment of claims, since the contracts are for a definite number of dollars.

Gross premiums on life insurance policies are determined by an assumed rate of return on the investment of funds, the mortality table, and the expenses of operation. The usual assumed rate of return on investments has been 3 per cent. The steady decline in interest rates on prime investments in recent years, however, has led many of the insurance companies to adopt a lower interest basis to insure maintenance of ample margins of safety behind the company's policies. The Metropolitan Life Insurance Company and the Prudential Insurance Company of America have reduced the interest basis to $2\frac{3}{4}$ per cent, while the New York Life Insurance Company has adopted a $2\frac{1}{2}$ per cent interest basis.¹³

The fact that life insurance is intimately connected with the lives and savings of individuals has made the investments of the com-

¹³ The net rate of interest earned by life insurance companies as reported by the Institute of Life Insurance was 5.25 per cent in 1925; 3.61 per cent in 1940; 3.07 per cent in 1945; 2.92 per cent in 1946; 2.88 in 1947; 2.96 in 1948; 3.04 in 1949; and 3.09 in 1950.

panies subject to regulation by the states. The investments of life insurance companies in New York, for example, are limited to:

- a. Government obligations: federal, state, and municipal.
- b. Collateral trust bonds on which the fixed charges have been earned at least one and a quarter times during each of any three years, including the last two years, of the last five years.
- c. Debenture bonds on which the fixed charges have been earned at least $1\frac{1}{2}$ times during the last five years, including the last year.
- d. Adjustment, income, or other contingent interest obligations, provided the average annual fixed charges and average annual maximum contingent interest has been earned at least $1\frac{1}{2}$ times during the last five years, including the last two years.
- e. Preferred or guaranteed stocks on which the aggregate fixed charges, contingent interest, and preferred stock dividend requirement has been earned at least $1\frac{1}{2}$ times during the last five years, including the last two years; such investments are limited to 10 per cent of the stock of the issuer and to 2 per cent of the admitted assets of the insurance company.
- f. Trustees' or receivers' obligations.
- g. Railroad equipment trust obligations.
- h. Bank acceptances and bills of exchange eligible for purchase in the open market by Federal Reserve banks.
- i. First mortgage bonds on improved unencumbered real property located in the United States not exceeding two thirds of the value of the property. Mortgage loans may exceed two thirds of the value of the property if guaranteed under the "Servicemen's Readjustment Act of 1944." Mortgage loans on any one property are limited to \$25,000 or 2 per cent of total admitted assets, whichever is greater; total mortgage loans may not exceed 40 per cent of total admitted assets.
- j. Purchase money mortgages.
- k. Bonds guaranteed or insured by the Federal Housing Administration under the "National Housing Act" or by the Administrator of Veterans' Affairs under the Servicemen's Readjustment Act of 1944.
- l. Real estate.
- m. Canadian government bonds up to 10 per cent of total admitted assets.
- n. Other foreign bonds up to $1\frac{1}{2}$ times the company's reserves.
- o. Stock or debentures of any housing company organized under the public housing law of the state.
- p. Stock of a Federal Home Loan bank.
- q. Securities issued or guaranteed by the International Bank for Reconstruction and Development up to 5 per cent of total admitted assets.
- r. Stock of Savings (or Building) and Loan Associations insured by Federal Savings and Loan Insurance Corporation up to 25 per cent of total admitted assets.

In 1951 an amendment to the law in New York State permitted life insurance companies to invest in common stocks of solvent corporations other than insurance companies or banks, provided (a) debt obligations and preferred stock, if any, of the corporation are eligible for purchase by life insurance companies, (b) the corporation during the past ten years has paid cash dividends on the common stock and has earned at a rate of at least 4 per cent on

the par or issued value of the stock, and (c) the stock is registered on a national securities exchange. The amount eligible for investment in any common stock is limited to 2 per cent of the outstanding stock and to $\frac{1}{10}$ of 1 per cent of the admitted assets. The total amount which may be invested in all common stock holdings may not exceed the lesser of 3 per cent of the total admitted assets or one-third of the surplus of the insurance company.

The changes in the diversification of investments by life insurance companies is evidenced by the following investments of forty-nine United States legal reserve companies as reported by the Life Insurance Association of America:

| | 1930 | 1940 | 1950 |
|-----------------------------------|--------|--------|--------|
| Bonds: | | | |
| Government: | 7.7 | 27.7 | 25.1 |
| U. S. | 1.8 | 19.4 | 21.3 |
| State, county, municipal. . . | 3.4 | 6.3 | 1.4 |
| Canadian. | 2.3 | 2.0 | 2.4 |
| Other foreign | .2 | | |
| Corporate: | 27.3 | 29.9 | 38.6 |
| Railroad. | 16.6 | 10.3 | 5.1 |
| Public utility. | 8.9 | 14.3 | 17.0 |
| Others. | 1.8 | 5.3 | 16.5 |
| Total bonds. | 35.0 | 57.6 | 63.7 |
| Stocks: | | | |
| Railroad. | .5 | .3 | .2 |
| Public utility | .7 | .6 | 1.0 |
| Others. | 1.4 | 1.0 | 1.7 |
| Total. | 2.6 | 1.9 | 2.9 |
| Mortgages: | | | |
| Farm. | 10.9 | 2.8 | 2.0 |
| Others | 29.6 | 16.1 | 21.4 |
| Total. | 40.5 | 18.9 | 23.4 |
| Real estate. | 2.4 | 6.5 | 2.3 |
| Policy loans and premium notes. . | 14.5 | 9.7 | 3.7 |
| Cash. | .7 | 3.3 | 1.4 |
| Other assets. | 4.3 | 2.1 | 2.6 |
| | 100.0% | 100.0% | 100.0% |

Life insurance companies have sought an outlet for their funds in recent years by the acquisition of real estate and the long-term leasing of such properties to industrial and merchandising concerns. New York Life, for example, financed the construction of new facilities for Continental Can Company to the extent of a reported \$10,000,000. The Equitable Life purchased the property occupied by Bonwit Teller, Inc., a New York department store, at a reported price of \$6,250,000 and then leased the property to the company for

a thirty-year period with the privilege of renewing the lease for an additional thirty years. The Equitable Life Assurance Society also has invested in railroad equipment. Under this plan the Society leases the equipment to the railroad for an initial term of fifteen years at a stipulated rental. At the end of the period the railroad has the option of returning the cars to the Society or of continuing to lease all or any of the cars for an additional term up to ten years at a nominal daily rental.

Fire and casualty insurance companies. Fire and casualty insurance companies, like life insurance companies, underwrite risks, for which they are paid premiums. They differ from life insurance companies, however, in four respects: (a) the policies are for short periods (generally one and seldom more than five years) and for losses which may not materialize; (b) their liability terminates at the expiration of the policy and the reserve which has accumulated belongs to them; (c) they are subject to sudden, large claims; and (d) they depend upon investment income to cover underwriting losses and dividend distribution.¹⁴ The investment policy of the fire and casualty insurance companies is influenced by those factors. The short-term obligations which they may be called upon to meet make liquidity most important and necessitate investment chiefly in securities of high marketability. On the other hand, the need for adequate investment income makes yield and appreciation essential.

Fire and casualty insurance companies are almost unrestricted by law in the selection of securities. The limited legal restrictions in New York State apply to investments constituting minimum capital requirements, which are restricted to United States Government, state, and local municipal obligations and to reserve investments which must equal in value 50 per cent of the combined unearned premium and loss reserves and must be invested in securities eligible for purchase by life insurance companies. Beyond those limitations, the law in New York State permits them to purchase any income-producing securities.

Individual Investor

Introduction. Institutional investors are strictly regulated by law in most states, and their purchases of securities restricted to

¹⁴ Life insurance companies are usually mutual, whereas fire and casualty companies are generally stock organizations.

obligations defined as "legal investments." While those "legals" vary from state to state, as a class they include only those types of securities in which greater emphasis is placed upon safety of principal than upon adequacy of income. The individual investor, on the other hand, faces an entirely different situation. He is unrestricted by law and free to select any security he desires. He may confine his investments to "legals" in the belief that he is achieving safety of his principal, but he does so at the expense of income. The artificial market enjoyed by "legals" makes them extremely high in price and low in yield. They provide a higher degree of safety than is needed by most individual investors and at a disproportionate cost.

The freedom of the individual investor from legal restriction is at once a privilege and a responsibility. The problem of investment would be considerably simplified if the investor could follow a model portfolio selected by competent authority for the "average" investor. The "average" investor, however, is entirely mythical. Every investor has an individual problem.

Investment objective. In managing their portfolios, some investors are seeking primarily appreciation in value, others stress income, still others emphasize safety of principal. The individual investor must give consideration to the following factors in determining his investment objective: (a) his financial position, which involves such factors as his age, number of dependents, life insurance carried, cash reserve, and current and prospective non-investment income; (b) the degree of risk which he can justifiably assume; and (c) the income required from the investment of his funds. No investor should contemplate the purchase of bonds or stocks unless and until he has established a basic portfolio consisting of adequate life insurance, a sufficient savings bank deposit and some United States Savings bonds. Life insurance is vitally necessary for the investor who has dependents and whose income consists primarily of earnings. Life insurance companies offer many types of insurance policies, but the two most common forms are the straight life and the endowment. The basic purpose of the former is to provide protection and the latter to combine saving with protection. If the former is placed with a mutual company and the "dividends" allowed to accumulate with the company, the straight life policy assumes the nature of an endowment. In either case the investor has created an estate which increases in value each year and against which he may borrow at any time. A back-

log of savings and Government bonds is needed to provide for emergencies.

If the investment of funds were simply a matter of selecting securities which provide an income, it would be a relatively simple task. What makes it difficult, however, is the necessity of obtaining not merely an income but an income sufficient to compensate for risks. To do this, income and risks must be weighed critically, one against the other, in the scales of personal circumstances and requirements.¹⁵ An investment program appropriate for a retired man of advanced years should differ radically from that for a young man engaged in business. A portfolio composed largely of high-quality bonds may be entirely suitable for the former but wholly unsuitable for the latter. The one is constrained to place major emphasis on capital conservation, while the other can prudently shoulder risks in order to avail himself of possibilities for capital accumulation. The prudent man, in the investment of his savings as in his general mode of living, must act his age; that is, his age determines what he eats, what he does, and what securities he purchases. Moderation in manner of life and in investing becomes increasingly necessary as he advances in years. An elderly man of limited means in investing his funds is constrained to exercise conservatism and to minimize risks, on the one hand, and to stress safety of principal and stability of income on the other. Health and life expectancy are important factors in the formulation of an investment program for the man of mature years. He must also base his program on the number of years he is likely to remain gainfully employed. The longer he can count on his salary, the less he need depend on his securities and, consequently, the broader will be his scope for assuming investment risks. The older he becomes the greater conservatism he must exercise and the more he must switch his objective to the provision for dependents. A young man with ample physical resources, on the other hand, can prudently shoulder great risks to avail himself of the possibilities for capital gain.

An investment portfolio must be composed in the light of the income required from it. Though high-grade bonds provide a high degree of safety, the yield from them is relatively low. On the other hand, carefully selected stocks involve a greater degree of risk but provide a larger return. In many cases, however, investors

¹⁵ See Benjamin Graham, *The Intelligent Investor*, Harper & Brothers, New York, 1949; Otto von Mering, *Investment in This Changing World*, Barron's Publishing Company, Inc., Boston, Massachusetts, 1950.

reach to speculative securities for income which they do not appear to require and in so doing assume risks that apparently ill become them. The foremost problem in investment is that of apportioning funds properly among securities of different types. Before selecting specific securities for his portfolio, the investor must determine the relative percentages of his funds which should be prudently allocated to high-quality fixed-income securities on the one hand and to lesser-quality bonds and preferred stocks, as well as to common stocks, on the other. This calls for the establishment of an investment program, definite in objective but flexible in content. Any arbitrary fixed percentage distribution between bonds and stocks would ignore both the peculiar problem of the investor and constantly changing market conditions. At one time it may be wise for the investor to restrict his holdings of bonds and of preferred stocks; at another time prudence may dictate the advisability of placing the funds primarily in good-quality bonds and other fixed-income securities. Not until the proper apportionment between bonds and stocks has been planned is it practicable to select specific individual issues.

Selection of securities. It is easy enough ordinarily to select speculative securities affording liberal income and possessing possibilities for eventual enhancement in value. The difficulty, however, is in reconciling these two factors with the risks which they normally entail and the individual investor's ability to shoulder such risks.

Analysis should precede the selection of the security and should involve consideration of the industry, the company, and the security. Industries go through a life cycle which may be divided roughly into experimentation, expansion, and saturation. The saturation stage is sometimes followed by a decline. While in the experimentation stage, an industry usually experiences severe competition, low earnings, failures, and the elimination of the weaker companies. Investors who buy into companies at this stage may be getting in "on the ground floor" of a subsequently successful enterprise or may be doomed to loss of their investment in an unsuccessful venture. All industries which may enter the stage of experimentation do not necessarily survive and expand. Many of them are unable to make a market for their products and they disappear. The investor who may have been fortunate in the selection of the industry must be patient, however, for a return on his investment, since newly established companies must of neces-

sity conserve initial earnings in an attempt to build up strong financial resources.

An industry that has passed successfully through the period of experimentation usually enters the period of expansion. The rate of expansion, however, depends largely upon the character of and the demand for the product. After enjoying a period of expansion, an industry inevitably reaches the saturation stage, at which the rate of growth decreases. With the slowing down in the rate of increase, the securities assume the characteristic of stability of earnings in contrast to the previous growth in earnings. Obviously, an industry entering the period of decline presents no attraction to the investor. On the other hand, an industry in the expansion stage merits the attention of the investor.

An attractive investment situation is rarely found in an industry that is not prosperous as a whole or that is declining. Selection of the industry should be based upon two considerations: (a) What are the probable economic conditions ahead, and (b) will the industry under consideration prosper, hold its own, or fall behind? If the investor believes that a period of industrial decline is approaching, his selection should be restricted to an industry which either produces products or services considered to be a necessity or whose raw materials and general overhead costs are flexible enough to permit maintenance of adequate profit margins in the face of declining selling prices for the products. Under those conditions, he would prefer the food industry, certain types of public utilities, or other similarly situated industries rather than heavy equipment manufacturers, railroad equipment, or the building-supply industry. If, on the other hand, he contemplates the beginning of an upward movement in the broad economic cycle, his initial selection would include railroad equipment, steel, non-ferrous metals, machinery, electrical equipment, and similar capital goods industries. Later in the cycle his selection might include railroads, automobiles, household equipment, building supplies, and retail trade.

Having selected the industry, the attention of the investor is directed next to the selection of a company in the industry. Analysis of the companies in order to choose the most promising company involves consideration of growth prospects, management, balance sheet, earnings, and dividend record. The importance of the growth factor lies in the fact that when a company ceases to grow it rarely remains stationary; it usually declines with consequent decline in the market value of its securities and the owners'

invested capital. Efficient management is essential to the successful operation of any company since upon it depends growth, ability to withstand adversity, and the realization of income to the investor. Analysis of the balance sheet reveals both the solvency and the stability of the company as evidenced by its working capital and its fixed capital. The comparative earnings statement discloses growth, the ability of the management to cope with economic conditions as they may arise and what the investor may expect in the way of future income and accrued value to his investment. Though the dividend record is historical evidence of the company's ability or inability to earn an income on its invested capital, analysis of it reveals to the investor an approximation of what return he may expect on his capital.

Analysis of the securities of the company finally selected must of necessity include careful consideration of the nature and strength of the claim against the earnings and assets which each security enjoys as evidenced by the terms of the bond indenture or the stock provisions, financial strength of the company, and the earnings record.

Supervision. Proper supervision of a fund involves adequate diversification, continuous review, and proper safeguarding. No matter how carefully securities may be selected, the investor nevertheless assumes risk in each investment. For this reason the funds must be diversified. They may be diversified among bonds and stocks, public and private corporate issues, securities of railroads, public utilities, industries, banks, and insurance companies. Funds invested in industrial companies may be diversified among companies in various fields and in various parts of the country. Bonds may also be diversified according to maturity dates.

Diversification seeks to increase the degree of safety in the fund by decreasing the amount of risk incurred in each security.¹⁶ It is a realistic recognition of the fallibility of human judgment and of

¹⁶ Institutional investors are usually required by law to diversify their investments. In New York State, savings banks may not invest more than 65 per cent of total assets in real estate mortgages (exclusive of Federal Housing Administration insured mortgages); 25 per cent in railroad securities; 10 per cent in electric and gas bonds; 10 per cent in telephone bonds. Life insurance companies may not invest more than 40 per cent of total assets in real estate mortgages (exclusive of Federal Housing Administration insured mortgages) nor more than 10 per cent in Canadian government obligations. Fire and casualty insurance companies must comply with the requirements for life insurance companies as to eligible investments to the extent of 50 per cent of the unearned premium reserve and reserves for estimated losses. Common trusts may not invest more than 10 per cent of total assets in any single enterprises other than United States Government securities.

the uncertainties underlying the selection of securities. Occasional losses must inevitably occur, but diversification tends to limit the full force of any single miscalculation to only part of the investment fund. Diversification of funds among several securities is not an attempt to eliminate risk but rather to spread the risk.

A portfolio may consist exclusively of the most promising securities in their own particular classifications and yet be entirely unsuited for the owner if the funds are allocated unwisely among the various types of securities. In fact, many portfolios are unsuitable for this very reason. Experience has shown that investors frequently go to one extreme or the other by either over-diversifying or under-diversifying their risks. Some investors act on the erroneous belief that the larger the number of securities the greater is the degree of diversification and safety. They overlook the practical handicap that the portfolio may contain more securities than they can properly supervise. One portfolio recently submitted had an aggregate value of \$45,264 and contained forty-three securities with an average investment of approximately \$1,050. Individual commitments ranged from \$120 to \$4,486; fifteen holdings accounted for 72.5 per cent of the entire fund, and the remaining 27.5 per cent was scattered over twenty-eight securities. In another fund of \$180,620, which contained fifty securities representing an average investment of \$3,612, corporate securities alone ranged from eight shares of one common stock with a total market value of \$94 to fifty shares of another common stock having a value of \$8,000. The investment in corporate securities amounted to \$51,227, or 62.8 per cent, and were in sixteen issues. The rest of the fund, 37.2 per cent, was spread over as many as thirty issues. Obviously those lists did not afford the risk diversification that length is commonly supposed to supply. Other investors under-diversify, not so much by investing in too few securities but by failing to allocate the funds judiciously among the individual issues and industries. Many investors are inclined to show undue preference for securities of corporations that operate in the section of the country in which the investors reside. In so doing they run the risk involved in restricting their portfolio's diversification on a geographical basis. The measurement of the diversification afforded by a fund is not the number of securities owned but the proportions in which they are held. A fund containing fifty or more securities may not be nearly so well diversified as another containing no more than ten securities. The appropriate number

of securities depends upon the number of eligible securities available, the size of the investment fund, and the number of issues the investor can reasonably supervise.

However well chosen the portfolio may be, it must be continually reviewed in the light of changing conditions both in the securities market and in the requirements of the investor. Cyclical change threatens the investor through periodic general decline in corporate income and asset protection, through variation in his income from the securities, and through change in the market valuation of his securities. In a balanced investment program bonds are relied upon for protection against periods when stock prices and dividends decline, while stocks are designed to provide an appreciation in price and increase in dividends during an inflationary period. It is difficult, however, to achieve perfect and permanent balance. Circumstances are continually arising to change investment values collectively and separately. By the same token, the requirements of the investor may change. While his original investment objective may have been justified in the light of his personal circumstances at that time, subsequent changes in his financial position may necessitate alteration of that investment objective and with it a readjustment of his portfolio.

Diversification tends to minimize the losses which may be incurred because of those changes, but the sale and exchange of securities that face unpromising prospects are even more effective as a guard against depreciation. In view of changing business conditions and the corresponding changes in investment values, adjustment of the portfolio becomes mandatory. The adjustment does not involve a complete change from bonds to stocks or from stocks to bonds, but rather a shift in the emphasis given to high-quality fixed-income securities on the one hand and to lesser-quality bonds, preferred stocks, and common stocks on the other. Inasmuch as the primary reason for the assumption of risk is to obtain income, adjustment of the portfolio to changes in the purchasing power of the dollar is essential. Contrary to an altogether too common concept, improvement of an investment portfolio does not consist solely of adding to the securities contained in it. Quite frequently improvement can be effected not by changing the securities but simply by allocating funds differently among the various bonds and stocks. In other cases it is necessary to weed out many issues. The switching of securities, like diversification, may be overdone and carried to the point where it becomes a trading

account. A switching of securities is justified only when it results in improvement in the fund.

The securities in the fund should also be properly safeguarded, not only as to place but as to condition as well. The advantage of depositing them in a protected place, such as a safe-deposit box in a bank, is obvious. Stocks should be transferred to the name of the owner upon purchase; bonds bought for long-term holding should be registered in full or at least as to principal.

Review Questions

1. What is meant by "safety" in an investment?
2. Indicate the relation between the rate of return and the degree of risk.
3. What fundamental factors determine interest rates?
4. Distinguish between the commercial rate of interest and the investment rate of return.
5. Explain the meaning of the term "money market."
6. Explain the money market significance of (a) commercial paper, (b) acceptances, (c) collateral loans, (d) short-term government securities, (e) federal funds.
7. Name the elements entering into the rate of return on any security.
8. Indicate the average price of new capital as reflected in Moody's weighted average of the yield on newly issued domestic bonds.
9. Explain the calculation of the pure rate of interest.
10. Indicate the yield range for highest grade, high grade, good, fair, and speculative securities when the longest-term U. S. Treasury bond is selling to yield 2.21 per cent.
11. Indicate the factors influencing changes in prices of stocks and bonds.
12. Comment on the following changes in the value of a bond:

| <i>Market Rate</i> | | | | |
|--------------------|-------|-------|-------|------|
| <i>Coupon Rate</i> | 3% | 3½% | 4% | 4½% |
| 3 | 100 | 85.7 | 75.0 | 66.7 |
| 3½ | 116.7 | 100.0 | 87.5 | 77.7 |
| 4 | 133.3 | 114.3 | 100.0 | 88.8 |

13. If the current investment rate of interest increases from 4 per cent to 5 per cent, indicate the percentage change in the value of 3½ per cent bonds which mature in five, ten, fifteen, twenty, and twenty-five years, respectively.
14. Account for the following differences in yields as indicated by Moody's average corporate bond yields:

| | AAA | BAA | Spread |
|------------|------|------|--------|
| 1927 | 4.56 | 5.48 | .91 |
| 1932..... | 5.01 | 9.30 | 4.29 |
| 1945.. .. | 2.62 | 3.29 | .67 |

15. Discuss the limitations to yield as a criterion of investment value.
16. Explain the significance of marketability.
17. How may the degree of marketability in a security be measured?

18. Discuss the factors influencing the degree of marketability in a security
19. What is meant by the statement, "Marketability costs money"?
20. Discuss the kinds of taxes that are important to investors in securities.
21. Distinguish between the federal normal tax and the surtax.
22. Distinguish between short-term and long-term capital gains.
23. What is meant by tax-exempt securities?
24. Explain the significance of estate taxes.
25. Discuss the problem of investment timing.
26. Explain the meaning of the Dow theory.
27. What is meant by formula-timing?
28. Name three factors in the formulation of an investment program.
29. What is meant by "institutional" investors?
30. Name the parties to a trust.
31. Explain the basis of the investment policy of a trustee.
32. Indicate the investment problem with respect to the life-tenant and the remainderman.
33. Explain the operation of the life insurance trust.
34. Describe the nature of a common trust.
35. Discuss the relation between the type of deposit accepted by a savings bank and its investment policy.
36. Explain the significance of the legal list to the investing banks.
37. Discuss the relation between the types of deposits and the investment policy of a commercial bank.
38. Explain the factors which determine the gross premiums on a life insurance policy.
39. Discuss the relation between the liabilities of life insurance companies and their investment policy.
40. Contrast life insurance companies with fire and casualty insurance companies with respect to their investment policies.
41. Contrast the individual investor and the institutional investor from the viewpoint of legal limitations on their respective investments.
42. What is meant by the "average" investor?
43. Explain the factors involved in the determination of the investment objective of an individual investor.
44. Indicate the factors involved in the selection of the proper securities.
45. Name the factors involved in the supervision of a fund.
46. Discuss the purpose of diversification.
47. Discuss the significance of a continuous review of the fund.
48. Discuss the significance of safeguarding the fund.

Assignment

- (a) Indicate the maximum yield on a true investment when the cost of capital is (1) $2\frac{1}{2}$ per cent, (2) $2\frac{3}{4}$ per cent, (3) 3 per cent.
- (b) Indicate the range of yields for highest-grade, high-grade, good, fair, and speculative securities when the yield on United States Treasury long-term bonds is (1) $2\frac{3}{4}$ per cent and (2) $3\frac{1}{2}$ per cent.

- (c) By use of a bond yield table calculate the price of a 4 per cent bond due in ten years in (1) a 4 per cent market, (2) a $3\frac{1}{2}$ per cent market, and (3) a 5 per cent market.
- (d) Compute the current yield on a stock (\$50 par value) paying an annual dividend of 6 per cent and selling at $41\frac{1}{8}$ to (1) a stockholder who still owns stock which he purchased two years ago at $46\frac{3}{4}$ and (2) a trader who buys the stock at its present price.
- (e) Stockholder Wilson bought 100 shares of XYZ Corporation common stock last year at $52\frac{1}{2}$. Stockholder Thomas bought 100 shares of the same common stock this year at $43\frac{3}{4}$. The corporation paid an annual dividend of \$2 a share last year and of \$1.50 a share this year. Compute the current yield to stockholder Wilson last year and this year and to stockholder Thomas this year.
- (f) Set up an investment program for a man 35 years of age.
- (g) Set up an investment program for a man 26 years of age, married, one child, \$200 in a savings account, no life insurance, and earning \$3,000 a year.
- (h) Analyze the following portfolio submitted by a business man, age sixty, with only his wife to support, whose present business yields him \$5,000 annually, whose annual living expenses are \$7,000, and who has \$10,000 in cash in the bank and \$30,000 in paid-up life insurance:

BONDS

| <i>Amount</i> | <i>Issue</i> | <i>Cost</i> | <i>Current Market Value*</i> | <i>Annual Income*</i> |
|---------------|--|-----------------|--------------------------------------|---------------------------|
| \$5,000 | A.T. & S.F. 4s, 1995 | \$5,600 | \$ | \$ |
| 2,500 | Cities Service 3s, 1977 | 2,600 | | |
| 5,000 | Southern Pacific 2 $\frac{3}{4}$ s, 1996 | 3,350 | | |
| | Total | <u>\$11,550</u> | <u>\$</u> | <u>\$</u> |

COMMON STOCKS

| <i>Shares</i> | <i>Issue</i> | | | |
|---------------|--------------------------------------|-----------------|-----------|-----------|
| 100 | American Telephone & Telegraph | \$15,400 | \$ | \$ |
| 50 | U. S. Steel | 2,500 | | |
| 100 | General Electric | 3,600 | | |
| 100 | Consolidated Edison | 2,000 | | |
| | Total | <u>\$23,500</u> | <u>\$</u> | <u>\$</u> |
| | Grand Total | <u>\$35,050</u> | <u>\$</u> | <u>\$</u> |

* Student should fill in current data.

CHAPTER NINE

INVESTMENT COMPANIES

Introduction. Investment of funds by an investor in fulfillment of his investment objective involves a careful selection of securities, a diversification of risks, and a continuous supervision of the portfolio. Some investors, because of their large amount of capital, can engage experienced investment advisers to assist them in the selection and supervision of their fund and can readily attain adequate diversification through the purchase of many securities. The small investor, on the other hand, is in a less advantageous position. His limited capital does not permit him to assume the expense of investment counsel and, at the same time, limits the possible degree of diversification. He generally does not have the time, experience, and training necessary for proper investment analysis and supervision. If, however, the small investor with \$1,000 to invest were to join with 999 other similarly situated investors, the combined group of 1,000 would have an aggregate fund of \$1,000,000 which would permit the group to engage professional advisers and diversify the risks in a manner similar to that of the wealthy investor. This is the basic principle underlying the investment company.

The term "investment company," therefore, has been applied to those companies which engage in the business of investing the funds of individual investors who prefer not to make their own commitments. The investment company pools the capital of many investors in a combined fund, thus making available to the investors the advantages of experienced selection, broad diversification, and continuous supervision. The basic idea of investment companies originated in Belgium and Holland, but the initial wide development occurred in Scotland and England in the last quarter of the Nineteenth Century. These early companies followed a conservative policy of stressing income and of building up reserves from capital profits. The idea spread to the United States and

saw its real development in the middle 1920s. Some American companies followed the conservative policies of the Old World companies but many others sought appreciation in securities regardless of income and safety of principal and, treating capital gains as profits, distributed them as dividends. The unfortunate experiences of investors in investment company securities during the 1930s led to a study of the field by the Securities and Exchange Commission and resulted in the Investment Company Act of 1940.

Investment Company Act of 1940. Investment companies subject to the Investment Company Act of 1940 are required to register with the Securities and Exchange Commission by filing a notification of registration and a registration statement.¹ The registration statement, among other things, must contain the designated status of the company as a diversified or non-diversified company and a statement of the investment policy of the company. A majority vote of the company's outstanding voting securities is necessary to make any change in the status or the investment policy of the company. A diversified company is one which, in respect to 75 per cent of its total assets, has invested not more than 5 per cent of its assets in any one company and holds not more than 10 per cent of the outstanding voting securities of any company. A registered investment company must have a net worth of at least \$100,000 and have at least twenty-five shareholders.

A registered investment company may not (a) purchase any security on margin (except such short-term credits as are necessary for the clearance of transactions), (b) participate on a joint or a joint and several basis in any trading account in securities (except in connection with an underwriting in which such registered company is a participant), or (c) effect a short sale of any security (except in connection with an underwriting in which the company is a participant).

Any contract which a company may have with an investment adviser must be in writing and approved by a majority vote of the outstanding voting securities. Such contract must (a) state the compensation to be paid the adviser, (b) be approved annually, after the initial two years, by the board of directors or by a majority vote of the outstanding voting securities, (c) provide, in substance, that it may be terminated at any time, without the pay-

¹ An investment company is deemed to be registered upon receipt by the Commission of the notification of registration (Form N-8A). The laws of many states also require state registration.

ment of any penalty, by the board of directors or by a majority vote of the outstanding voting securities on not more than sixty days' written notice to the investment adviser, and (d) provide, in substance, for its automatic termination in the event of its assignment by the investment adviser.

The Act requires that at least two-thirds of the board of directors must be elected by the shareholders and restricts underwriters, investment bankers, and brokers to a minority of the board.

Dividends may be paid only from current or accumulated undistributed net income. Payment from any other source must be accompanied by a written statement adequately disclosing the source.

Every registered investment company is required to file annually with the Commission the same information, documents, and reports as required under the Securities Exchange Act of 1934 of companies whose securities are registered on a national securities exchange. In addition, each company must file with the Commission interim reports to keep reasonably current the information and documents contained in the registration statement and copies of every report containing financial statements sent to its security holders. Each company must submit at least a semi-annual report to shareholders. The methods of accounting and reporting are prescribed by the Commission.

The Act classifies investment companies as (a) "face-amount certificate" companies, (b) "unit investment trust" companies, and (c) "management" companies. A "face-amount certificate" company issues face-amount certificates of the installment type. They are unsecured obligations to pay either a specified amount to the holder at a specified future date, provided the purchaser makes all the payments required by the contract, or a cash surrender value prior to maturity if the certificate is surrendered to the issuing company. Under the Act, face-amount certificate companies must have a minimum capital of \$250,000 and must maintain statutory reserves deemed adequate to mature the certificates. They may issue preferred stocks only with the approval of the Commission. Restrictions are placed, also, on their power to declare dividends where the effect of such payment might adversely affect the financial stability of the company.

A "unit investment trust" is an investment company which (a) is organized under a trust indenture, contract of custodianship or

agency, or similar instrument, (b) does not have a board of directors, and (c) issues only redeemable securities, each of which represents an undivided interest in a unit of specified securities.² In a fixed or unit investment trust, management discretion is practically eliminated. The Act prescribes the form of trust indentures to be used and the charges which may be made by the trustees or sponsors.

The investment company field is dominated, however, by the management type. The management companies, in turn, are classified as close-end and open-end companies.³

Closed-end companies. The capital structure of a closed-end company consists of relatively fixed amounts of capital represented by debenture bonds, preferred stocks, and common stocks, all of which is generally raised at formation. For example, in a recent year one investment company had outstanding 1,946,777 shares of common stock (par \$1), while a second company had 62,000 shares of \$4.50 cumulative preferred stock and 1,638,898 shares of common stock, and a third company had an issue of debenture 3s in addition to 90,750 shares of \$6 cumulative convertible preferred stock and 1,602,460 shares of \$1 par value common stock. The Act prohibits the issuance of senior securities unless immediately after the sale there is an asset coverage of 300 per cent in the instance of bonds and 200 per cent in the instance of preferred stock. A company issuing senior securities must have at least 50 per cent of its assets represented by common stock equity at the time of issuance of such securities. Only one class of bonds and one class of preferred stock may be issued.

An investor invests in a closed-end company by the purchase of the company's securities in the open market and, by the same token, disposes of his holdings by sale in the market. These securities are usually traded on a national securities exchange, although a few are traded over-the-counter.⁴ Trading in these securities is subject to the usual brokerage commissions. Their prices are determined by the usual market factors of supply and demand.

² It does not include a voting trust.

³ A recent report of the Securities and Exchange Commission on 144 management investment companies registered under the Investment Company Act of 1940 revealed that 78 were closed-end companies and 66 were open-end companies.

⁴ Closed-end companies are prohibited from purchasing securities of which they are the issuer, except (a) on national securities exchanges or other open markets designated by the Commission under specified circumstances, (b) pursuant to tenders, or (c) under other circumstances approved by the Commission.

Net asset value. The capital structure of closed-end companies may consist of bonds and/or preferred stock in addition to common stock. Net asset value refers to the stockholders' equity in the assets of the company. Where a company has only common stock outstanding, the net asset value per share of the common stock is determined by dividing the total net assets by the number of shares outstanding. One investment company, for example, with 2,062,741 shares of \$5 par common stock outstanding reported the following net assets:

| | |
|--|---------------------|
| Cash, etc., less current liabilities | \$11,313,498 |
| General market: common stocks | 12,977,550 |
| Special situations: | |
| Bonds | 783,671 |
| Preferred stocks | 7,887,628 |
| Common stocks | 31,317,894 |
| Majority owned subsidiaries* | 6,619,795 |
| Other investments* | 3,488,030 |
| Total | <u>\$74,388,066</u> |

* At carrying values determined by the management

On the basis of 2,062,741 shares of common stock outstanding, the net asset value per share was \$36.06 ($\$74,388,066/2,062,741$).

Where the company has preferred and common stocks outstanding it is necessary to compute the net asset value of each class of stock. For example, one investment company reported the following net assets:

| | |
|--|---------------------|
| Cash, etc., less current liabilities | \$ 1,926,642 |
| General market and other securities | 103,000 |
| American General preferred* | 6,371,868 |
| American General common** | 15,184,679 |
| | <u>\$23,586,189</u> |

* Taken at the \$50 per share liquidating value

** Taken at underlying net asset value

The capital structure consisted of 165,032 shares of \$1 par value preferred stock, entitled to \$50 a share in liquidation and with \$4.75 per share accrued dividends at the date of the statement, and 4,791,289 shares of 10 cent par value common stock. On the basis of net assets of \$23,586,189, the net asset value of the preferred stock was \$142.92 a share ($\$23,586,189/165,032$). The calculation of the net asset value per share of the common stock involves consideration of the liquidating value of the preferred stock and the accrued dividends on the preferred stock. In liquidation the preferred stock was entitled to \$9,035,502 computed as follows:

| | |
|--|--------------------|
| 165,032 shares × \$50 liquidating value..... | \$8,251,600 |
| 165,032 shares × \$4.75 accrued dividend | 783,902 |
| | <u>\$9,035,502</u> |

The net asset value for the common stock, therefore, was \$14,-550,687 computed as follows:

| | |
|---|---------------------|
| Total net asset value | \$23,586,189 |
| Less: liquidating value of preferred..... | 9,035,502 |
| Net asset value for common | <u>\$14,550,687</u> |

On the basis of 4,791,289 shares of common stock outstanding, the net asset value per share of common stock was \$3.04 (\$14,550,687/4,791,289).

On the other hand, the net asset value of the common stock may represent a deficit. One investment company reported the following net assets:

| | |
|--|---------------------|
| Cash, etc., less current liabilities | \$ 112,156 |
| Preferred stock | 1,025,500 |
| Common stocks | <u>12,737,457</u> |
| | <u>\$13,875,113</u> |

The company had outstanding 178,300 shares of \$6 cumulative preferred stock, entitled to \$100 in liquidation and with \$88.50 accrued dividends at the date of the statement, and 8,293,004 shares of 10 cent par value common stock. On the basis of net assets of \$13,875,113, the net asset value of the preferred stock was \$77.82 (\$13,875,113/178,300). In liquidation the preferred stock was entitled to \$33,609,550 computed as follows:

| | |
|---|---------------------|
| 178,300 shares × \$100 liquidating value..... | \$17,830,000 |
| 178,300 shares × \$88.50 accrued dividend | 15,779,550 |
| | <u>\$33,609,550</u> |

The net asset value for the common stock, therefore, was a deficit of \$19,734,437 computed as follows:

| | |
|---|---------------------|
| Total net asset value..... | \$14,875,113 |
| Less: liquidating value of preferred..... | 33,609,550 |
| Net asset value for common.....(deficit) | <u>\$19,734,437</u> |

On the basis of 8,293,004 shares of common stock outstanding, the net asset value per share of common stock was a deficit of \$2.38 (deficit of \$19,734,437/8,293,004).

Where the company has outstanding bonds, preferred stock, and common stock, the calculation of the net asset value of the preferred and common stocks must give consideration to the prior claims outstanding. For example, one investment company reported net assets of \$21,580,561 as follows:

| | |
|--|---------------------|
| Cash, etc. less current liabilities..... | \$ 671,461 |
| Bonds | 1,627,745 |
| Preferred stocks..... | 1,480,888 |
| Common stocks: | |
| Industrial | 12,627,991 |
| Public utility | 4,250,475 |
| Financial | 201,188 |
| Investment company | 720,813 |
| | <u>\$21,580,561</u> |

The capital structure consisted of \$2,650,000 of debenture 3s of 1960; 90,750 shares of \$6 cumulative convertible preferred stock with a stated value of \$25; and 1,602,460 shares of \$1 par value common stock. In view of the fact that the debentures took precedence over the preferred and common stocks, the net asset value available for the preferred stock was \$18,930,561 (\$21,580,561-\$2,650,000), or at the rate of \$208.60 per share of preferred stock (\$18,930,561/90,750). Inasmuch as the preferred stock was entitled to \$105 a share in liquidation and had accrued dividend of 50 cents per share on the statement date, the net asset value available for the common stock was \$9,356,436 computed as follows:

| | |
|---|--------------------|
| 90,750 shares × \$105 liquidating value | \$9,528,750 |
| 90,750 shares × \$0.50 accrued dividend | 45,375 |
| | <u>\$9,574,125</u> |

$$\$18,930,561 - \$9,574,125 = \$9,356,436$$

The net asset value for the common stock, therefore, was \$9,356,436 (\$18,930,561 — \$9,574,125), or at the rate of \$5.84 a share (\$9,356,436/1,602,460).

Leverage. Many of the closed-end companies are of the leverage type. Leverage results from the presence of senior capital, in the form of bonds or preferred stocks, and refers to the degree of volatility imparted to the asset value of the common stock. When a closed-end investment company has senior securities outstanding its common stock is said to be "leveraged." This indicates that the common stock equity (asset value per share) increases or decreases by a greater percentage than the per cent change in the value of the total assets (working assets per share). All increases in asset value above the senior capital belongs to the common stock. By the same token, however, the common stock is affected first by any decrease in asset value. A leveraged stock moves much faster than the general market both in a rising market and in a declining market.

For example, in a company with \$50,000,000 of assets, represented by \$30,000,000 of preferred stock and 2,000,000 shares of

common stock with an equity of \$20,000,000, each share of common stock has an asset value of \$10 ($\$20,000,000/2,000,000$) and a working asset value of \$25 ($\$50,000,000/2,000,000$):

| | |
|--------------------------|--------------|
| Total assets..... | \$50,000,000 |
| Preferred stock..... | \$30,000,000 |
| Common stock equity..... | \$20,000,000 |
| Common shares..... | 2,000,000 |
| Per share: | |
| Asset value..... | \$10 |
| Working assets..... | \$25 |

If now the total assets were to increase 20 per cent in value, they would have a value of \$60,000,000. Inasmuch as the interest of the preferred stock remains the same, the entire appreciation goes to the common stock whose asset value per share is now \$15. A 20 per cent increase in the value of the total assets has resulted in a 50 per cent increase in the asset value of the common stock:

| | <i>Before</i> | <i>After</i> |
|--------------------------|---------------|--------------|
| Total assets..... | \$50,000,000 | \$60,000,000 |
| Preferred stock..... | \$30,000,000 | \$30,000,000 |
| Common stock equity..... | \$20,000,000 | \$30,000,000 |
| Common shares..... | 2,000,000 | 2,000,000 |
| Per share: | | |
| Asset value..... | \$10 | \$15 |
| Working assets..... | \$25 | \$30 |

If, on the other hand, the total assets were to decrease 20 per cent the total assets would have had a value of \$40,000,000. Inasmuch as the interest of the preferred stock remains the same, the asset value of the common stock declines to \$5 a share. A decrease of 20 per cent in the value of the total assets has resulted in a 50 per cent decrease in the asset value of the common stock:

| | <i>Before</i> | <i>After</i> |
|--------------------------|---------------|--------------|
| Total assets..... | \$50,000,000 | \$40,000,000 |
| Preferred stock..... | \$30,000,000 | \$30,000,000 |
| Common stock equity..... | \$20,000,000 | \$10,000,000 |
| Common shares..... | 2,000,000 | 2,000,000 |
| Per share: | | |
| Asset value..... | \$10 | \$5 |
| Working assets..... | \$25 | \$20 |

The leverage factor in the common stock indicates the degree of leverage and is measured by the ratio working assets per share/asset value per share. If the common stock has a working asset value of \$25 a share and an asset value of \$10, the leverage factor is 2.5 to 1 ($\$25/\10). The leverage factor times a given per cent change in working assets will give the per cent change in asset value per

share. The leverage factor changes with changes in the working asset value and in the asset value of the stock. Generally speaking, over a long period of time leverage shares tend to move pricewise in ratio to the leverage factor.

Although leverage shares tend to move faster than the market, the extent of the movement depends upon the ratio of senior capital to the common stock equity. For example, in Company A, with \$50,000,000 of assets represented by \$30,000,000 of preferred stock and 2,000,000 shares of common stock with an equity of \$20,000,000, each share of common stock has an asset value of \$10 ($\$20,000,000/2,000,000$) and a working asset value of \$25 ($\$50,000,000/2,000,000$). If the total assets were to increase 20 per cent in value, they would have a value of \$60,000,000 and the asset value of the common stock would increase to \$15. A 20 per cent increase in the value of the total assets has resulted in a 50 per cent increase in the asset value of the common stock:

Company A

| | <i>Before</i> | <i>After</i> |
|--------------------------|---------------|--------------|
| Total assets..... | \$50,000,000 | \$60,000,000 |
| Preferred stock | \$30,000,000 | \$30,000,000 |
| Common stock equity..... | \$20,000,000 | \$30,000,000 |
| Common shares..... | 2,000,000 | 2,000,000 |
| Per share: | | |
| Asset value..... | \$10 | \$15 |
| Working assets..... | \$25 | \$30 |

In Company B, on the other hand, which also has \$50,000,000 of assets but which is represented by \$40,000,000 of preferred stock and 1,000,000 shares of common stock, the common stock has an equity of \$10,000,000. Each share of common stock has an asset value of \$10 ($\$10,000,000/1,000,000$) and a working asset value of \$50 ($\$50,000,000/1,000,000$). If the total assets were to increase 20 per cent in value, they would have a value of \$60,000,000 and the asset value of the common stock would increase to \$20. A 20 per cent increase in the value of the total assets has resulted in a 100 per cent increase in the asset value of the common stock:

Company B

| | <i>Before</i> | <i>After</i> |
|--------------------------|---------------|--------------|
| Total assets..... | \$50,000,000 | \$60,000,000 |
| Preferred stock..... | \$40,000,000 | \$40,000,000 |
| Common stock equity..... | \$10,000,000 | \$20,000,000 |
| Common shares..... | 1,000,000 | 1,000,000 |
| Per share: | | |
| Asset value..... | \$10 | \$20 |
| Working assets..... | \$50 | \$60 |

While the assets of each company have increased 20 per cent in value, the asset value of Company B's common stock has increased 100 per cent compared with only 50 per cent for Company A's common stock. Company B provides greater leverage for its common stock than Company A because of the former's greater percentage of senior capital.

Investment policies. The investment policies of closed-end companies vary. Some companies invest primarily in common stocks, others invest in good-grade bonds and preferred and common stocks, and still others invest in certain industrial groups or in certain classes of securities.

Open-end companies. The capital structure of an open-end (mutual fund) company, on the other hand, is of one class and may be increased by the continual issuing of new shares or decreased by the redemption of outstanding shares.⁵ These shares represent the investor's beneficial interest in the assets of the fund established by the company (which is referred to as the trustee) and, when issued, are fully paid and non-assessable and fully registered. They are underwritten by an investment dealer, known as distributor, principal underwriter, or sponsor, who is authorized and licensed by the company, and who acts as principal in purchasing the shares from the company at net asset value and selling them to dealers and investors.⁶ The Keystone Company of Boston, for example, is the principal underwriter or distributor of shares of the Keystone Custodian Funds, Inc. An "underwriter" is defined by the Act as "any person who has purchased from an issuer with a view to, or sells for an issuer in connection with, the distribution of any security, or participates or has a direct or indirect participation in the direct or indirect underwriting in any such undertaking; but such term shall not include a person whose interest is limited to a commission from an underwriter or dealer not in excess of the usual and customary distributor's or seller's commission."⁷

The shares are distributed by the underwriter through investment

⁵ Open-end companies are not permitted to issue any senior securities but may contract bank loans provided a 300 per cent coverage in assets for such loans is maintained at all times.

⁶ The Act, Section 11 (b) makes it "unlawful for any registered open-end company . . . to act as a distributor of securities of which it is the issuer, except through an underwriter, in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of investors."

⁷ Section 15 (b) of the Act makes it "unlawful for any principal underwriter for a registered open-end company to offer for sale, sell, or deliver after sale any security of which such company is the issuer, except pursuant to a written contract with such company. . . ."

dealers and brokers. The Act prohibits the underwriter or any dealer from selling shares of the company to any person other than the company, the underwriter, or another dealer, except at the public offering price. The underwriter usually agrees to purchase from the company no more of the shares of the company than are needed to cover purchase orders actually received and not to avail itself of any possibility to realize a profit for the underwriter by anticipating or withholding orders. The rules of the National Association of Securities Dealers, Inc. and the selling agreements between the underwriter and dealers provide that no dealer may withhold placing customers' orders for shares so as to profit himself as a result of such withholding. Dealers, if so instructed by their customers, may withhold placing orders to benefit their customers pending a price change.

The investor places his order with a broker or dealer who acts as principal and who makes the remittance to the custodian. All securities and cash of the company are held by a custodian (bank or trust company) under a custodian agreement. For example, The Pennsylvania Company for Banking & Trusts is the custodian for Keystone Custodian Funds, Inc. The custodian receives directly, and pays for, all securities purchased by the company, including shares of the company which are purchased or redeemed, and delivers all securities sold by the company against receipt of the sale price, including shares sold or issued by the company. Usually, the custodian agreement provides that the custodian is not liable for the propriety or legality of purchases by the company of securities or the amount directed to be paid or received for securities purchased or sold. The company is prohibited from physically handling cash, securities, and other assets of the fund.

When the subscription payment made by the investor has been received by the custodian and credited to the fund, a certificate of participation for the number of shares purchased is delivered to the investor. This certificate is registered in the name of the investor and is countersigned by the custodian. It is, in effect, a receipt for the money and is evidence of the share purchased representing ownership of a portion of the assets of the specified fund.

Sales price. Shares are sold only for cash and at a fixed price.⁸ The sales price is based upon the net asset value per share and in-

⁸Section 22 (g) of the Act provides that "no registered open-end company shall issue any of its securities (1) for services; or (2) for property other than cash or securities (including securities of which such registered company is the issuer), except as a dividend or distribution to its security holders or in connection with a reorganization."

cludes an initial or loading charge to provide remuneration for services rendered in the issuance, distribution, and liquidation of shares.⁹

The net asset value is the excess of the sum of the current value of the securities owned and the cash and accounts receivable over the principal liabilities (accrued expenses and accounts payable). The current value of the securities owned by a fund is determined by using the last sales prices for the securities on the regular stock exchange or primary market where they are traded. If no sale of the security has occurred that day the value taken is the average of the last bid and asked prices. Receivables are carried at their book value. One investment company, for example, calculated the net asset value as follows:

| | |
|------------------------------------|---------------------|
| Securities at market value..... | \$48,622,897.00 |
| Cash and receivables..... | <u>1,367,852.07</u> |
| Total..... | \$49,990,749.07 |
| Less liabilities and accruals..... | <u>54,343.84</u> |
| Net assets..... | \$49,936,405.23 |

With 3,059,154 shares outstanding, the net asset value per share was \$16.32 (\$49,936,405.23/3,059,154).

The purpose of the initial charge or sales load is to provide remuneration for services rendered in the issuance, distribution, and liquidation of shares. It includes a commission to the underwriter for its services and an amount held in escrow by the custodian to be paid to the trustee for services in connection with the liquidation of shares.

The investment company generally receives the net asset value and the principal underwriter receives the initial charge or sales load, out of which a concession is allowed to the dealers who sell the shares to the public. The underwriter and dealer, of course, bear all sales expenses. In the above example, the \$17.82 proceeds from the sale of a share to the investor (offering price) represented

| | |
|-------------------------------------|--------------|
| Net asset value per share..... | \$16.32 |
| Estimated brokerage commission..... | <u>.07</u> |
| Price to underwriter..... | \$16.39 |
| Offering price (\$16.39/.92)..... | <u>17.82</u> |
| Sales commission..... | \$ 1.43 |

a payment of \$16.39 to the investment company (price to underwriter) and a payment of \$1.43 to the underwriter (sales commission). The sales commission or load of \$1.43 was 8 per cent of the

⁹The method of computing the sales and redemption prices is prescribed by the National Association of Securities Dealers, Inc.

offering price. The selling load varies among the companies. In a large number of instances it is between 7 and 8 per cent of the offering price with 7½ per cent as the most common. Many companies have a graduated-downward scale of commissions on orders exceeding \$25,000. One investment company has reported the following commissions and reallowances:

| <i>Amount of Sale</i> | <i>Gross Selling Commission (% of Selling Price)</i> | <i>Dealer Reallowance</i> | |
|---------------------------------|--|-----------------------------|--------------------------------|
| | | <i>(% of Selling Price)</i> | <i>(% of Total Commission)</i> |
| 9 to \$24,999 | 6% | 4.5% | 75% |
| \$ 25,000 to \$49,999 | 5% | 3.75% | 75% |
| \$ 50,000 to \$99,999 | 3.75% | 2.8% | 75% |
| \$100,000 and over | 2.75% | 2.25% | 82% |

There are a few funds which either have no loading charge or a very nominal one.

The asset value on which the sales price is based is determined by prices prevailing on the New York Stock Exchange and is calculated twice each business day; once at the prices as of 1:00 P.M. and again as of the closing of the Exchange at 3:30 P.M. The calculation as of 1:00 P.M. becomes effective at 2:00 P.M. and the calculation as of the close of the market becomes effective at 4:30 P.M. The price which is based on the 3:30 calculation and which becomes effective at 4:30 P.M. ordinarily remains in effect until 2:00 P.M. on the following business day when the 1:00 P.M. calculation becomes effective. A "business day" is deemed to mean a day on which the New York Stock Exchange is open. Because the sales price ordinarily is calculated only twice a day, it does not reflect the minute-to-minute fluctuations in asset value based on each variation in the market price for securities held. At the time of sale, therefore, the sales price may be higher or lower than if computed at the market at the time of each such sale of shares. To the extent that the offering price varies from actual asset value, based on market prices at the time of each sale of shares, the company receives more or less from the sale of shares than actual asset value. This tends to increase or to decrease the per share value of already outstanding shares. For this reason, the company usually has the right, without notice, to withdraw the sales prices as regularly computed between regular pricing times during any business day if in its opinion market conditions require such repricing. Orders placed after the withdrawal of prices are confirmed at the next regularly computed sales prices.

The company proceeds to invest the money paid by the investor in securities on an approved list which is on file with the custodian. It collects all investment income and, after deducting management fees and other expenses, pays the balance in dividends to the shareholders. Each shareholder is charged with his pro rata share of costs and receives his pro rata share of income.

Transferability. The shares are usually transferable by the registered owner at the offices of the company upon satisfactory proof that the transfer involves a gift or settlement of an estate or is between two bona fide investors.¹⁰ In the latter instance the transferor must have held the shares for a period of not less than thirty days. The transfer is executed upon the payment of the transfer fee and the transfer taxes. The shares are otherwise non-transferable, in the absence of consent of the company, unless first offered to the company for purchase in the manner and on the terms described in the prospectus of the trustee.

Shares may be surrendered to the company for redemption in cash at their liquidation value either directly or through a dealer. Although the Investment Company Act of 1940 requires payment within not more than seven days after shares are tendered for redemption, payment is usually made within two full business days. The liquidation value is based upon the net asset value per share and is computed by deducting from the net asset value per share an allowance for estimated brokerage charges and transfer taxes. These deductions are based on the assumption that, since the uninvested principal cash in the fund is usually nominal in amount, sales of securities may have to be made from time to time in order to meet applications for liquidation of shares. For example, one investment company computed liquidating value as follows:

| | |
|--------------------------------|----------------|
| Net asset value per share..... | \$27.9960 |
| Deduct: Brokerage..... | \$0.0070 |
| Adjustment for fractions . . . | 0.0090 |
| Liquidating value..... | <u>\$27.98</u> |

Applications for redemption of shares which are received between 10:00 A.M. and 1:00 P.M. are accepted at liquidation values computed as of 1 o'clock and are confirmed after 2 o'clock. Applications which are received after 1 o'clock are accepted at liquidation

¹⁰Section 22 (f) of the Act provides that "no registered open-end company shall restrict the transferability or negotiability of any security of which it is the issuer except in conformity with the statements with respect thereto contained in its registration statement nor in contravention of such rules and regulations as the Commission may prescribe in the interest of the holders of all of the outstanding securities of such investment company."

values computed as at the close of the market that day and are confirmed as of one hour after such market close. Liquidation values computed at the close of the market continue in effect until 10:00 A.M. the following day. The company usually has the right, without notice, to withdraw the liquidation value as regularly computed between regular pricing times during any business day if, in its opinion, market conditions require such repricing. Applications received after the withdrawal of values are confirmed at the next regularly computed liquidation values.

Management contracts. Most open-end companies have investment management contracts with other organizations under which they pay a management fee based upon either asset value or net profits. For example, American Business Shares, Inc. has had a contract with Lord, Abbett & Company, Inc. for a fee calculated as $\frac{1}{24}$ of 1 per cent of the average net assets of the fund during each month. On the other hand, the management fee paid by Equity Fund, Incorporated, has been based on net profits and at the rate of $\frac{1}{6}$ of net profits realized quarterly provided the total net assets at the end of each quarter and the total of all dividends paid by Equity from January 1, 1940 exceed the total net consideration received by the corporation for outstanding shares.

Investment policies. The investment policy of open-end funds is usually indicated in the company's prospectuses and in the periodic reports. Axe-Houghton Fund, Inc. selects securities primarily for safety of principal, earning power, marketability and strength of management, and only secondarily for dividend or interest yield. Dividend Shares, Inc. and General Investors Trust place emphasis on income. Delaware Fund, Inc., First Mutual Trust Fund, and Investors Stock Fund, Inc. stress capital appreciation.

Classification. Open-end investment companies are classified as (a) diversified common stock funds, (b) balanced funds, and (c) specialty funds. Common stock funds are those in which all or almost all the fund is invested in common stocks. Among the diversified common stock funds are Affiliated Fund, Inc., Bullock Fund, Ltd., Delaware Fund, Inc., and Dividend Shares, Inc.

A balanced fund investment company at all times holds bonds and/or preferred stocks and cash in varying ratios to its holdings of common stock in order to maintain relatively greater stability of both capital and income. Among the balanced funds are American Business Shares, Inc., Eaton & Howard Balanced Fund, Fully Administered Shares of Group Securities, Inc., and Nation-Wide

Securities Company, Inc. The policy of American Business Shares, Inc. calls for full investment at all times and diversification at all times among classes of securities (common stocks, preferred stocks, and bonds) as well as among industries.

Specialty funds are those which specialize either by industries or by classes and grades of securities. The former provide the investor a means of purchasing a diversified assortment of stocks in a single industry. Among funds of this type are Chemical Fund, Inc. and New York Stocks, Inc. Chemical Fund, Inc. invests in the chemical field which has been interpreted broadly to include all companies "in whose operation the science and technology of chemistry play an important role." Similarly, New York Stocks, Inc. offers 18 separate funds, each representing a major industry.

Other specialty funds specialize as to classes and grades of securities. These specialty funds provide the investor a means of a diversified assortment of either bonds, preferred stocks, or common stocks. Among these are Manhattan Bond Fund, Inc., Group Securities, Inc., and Keystone Custodian Funds, Inc. The primary objective of Manhattan Bond Fund, Inc. is to obtain a regular income from a diversified list of bonds. Group Securities, Inc. offers three bond funds: Institutional Bond Shares, General Bond Shares, and Railroad Bond Shares. Institutional Bond Shares represents investments in a selected list of bonds or other obligations which qualify for purchase as legal investments by savings banks or as reserve investment by life insurance companies in New York State. General Bond Shares invests in a diversified portfolio of medium-grade bonds selected largely for income. Railroad Bond Shares specializes in railroad bonds.

Keystone Custodian Funds, Inc. offers ten portfolios. The bond funds consist of B-1 composed of highest grade bonds with stability of capital as primary objective; B-2 medium-grade bonds selected for moderately higher income than B-1 but still with some degree of capital stability; B-3 low priced bonds chosen for generous return and B-4 speculative bonds chosen for high income and possible capital appreciation. The preferred stock funds consist of K-1 (good-grade preferred stocks selected for generous income return) and K-2 (speculative preferred stocks selected principally for possible capital appreciation and for modest current return). The common stock funds consist of S-1 (only blue chips); S-2 (good-grade common stocks selected for slightly higher return than S-1 and slightly higher capital appreciation possibilities); S-3 (higher-

priced speculative common stocks selected solely for capital appreciation regardless of current income) and S-4 (lower-priced speculative common stocks chosen for the best appreciation possibilities).

A recent study of 74 large open-end investment companies showed that (a) 36 were of the old-line diversified common stock group, (b) 17 were balanced funds holding cash and fixed income securities in varying ratios to their common stock investments, and (c) 21 were specialty funds including companies whose assets were invested either solely in bonds or preferred stocks or in preferred and common stocks of varying qualities, or in securities affording an interest in specific industries such as steel, automobile, chemicals, and so forth.

Measurement of results. The over-all management results are commonly measured by comparing changes from year to year in total net assets in the instance of closed-end companies and in net assets on a per share basis in open-end companies.¹¹

Closed-end companies. The measurement of results in the closed-end company involves the calculation of (a) the performance relative and (b) the chain index. In computing the performance relative adjustments must be made for dividends and interest payments and for changes in capital structure. For example, in one closed-end investment company, the performance relative was calculated as follows:

| | |
|--|--------------------|
| Net assets December 31, this year | \$4,299,185 |
| Plus: Interest paid on bank loan this year..... | 12,859 |
| Dividends on common this year.... | 151,005 |
| | <u>\$4,463,049</u> |
| Less: One-half of increase in bank loan.... | <u>287,500</u> |
| Total adjusted assets December 31, this year..... | \$4,750,549 |
| Net assets December 31, last year.. | \$3,992,273 |
| Plus: One-half of increase in bank loan..... | <u>287,500</u> |
| Total Adjusted Assets December 31, last year.... | <u>\$4,279,773</u> |
| | |
| $\frac{\text{Adjusted assets this year}}{\text{Adjusted assets last year}} = \frac{\$4,750,549}{\$4,279,773} = 111\% \text{ Performance Relative}$ | |

The performance relative is expressed as a percentage in which one in excess of 100 per cent is considered a gain and one less than 100 per cent a loss. In this instance the performance gain is expressed as 11 per cent.

¹¹ The leading source of information on investment companies is the annual edition of *Investment Companies* issued by Arthur Wiesenberger & Company, New York.

The long-term performance is measured in terms of a "chain index." In the above company the annual performance relatives were as follows:

| | |
|------------------------|------|
| This year | 111% |
| Last year. | 128% |
| Previous year. | 102% |
| Prior year. | 90% |

The index covering the two-year period (this year and last year) is obtained by multiplying the relative for this year by the relative for last year which gives an index of 142 per cent ($111\% \times 128\%$) or +42 per cent. In like fashion, the index covering the three-year period (this year, last year, and the previous year) is found by multiplying the index covering the two-year period by the relative for the previous year, which gives an index of 145 per cent ($142\% \times 102\%$) or +45 per cent. Similarly, the index covering the four-year period (this year, last year, previous year, and prior year) is determined by multiplying the index covering the three-year period by the relative for the prior year, resulting in an index of 131 per cent ($145\% \times 90\%$) or +31 per cent. On this basis the percentage change in net assets is as follows:

| | |
|----------------------------------|--------------|
| Last year to this year. | +42 per cent |
| Previous year to this year . . . | +45 per cent |
| Prior year to this year. | +31 per cent |

The "chain index" method is based upon the assumption that all interest and dividends paid out is automatically reinvested annually. It has the limitation, however, that since it includes a compound interest factor, the effects of both rises and declines in security prices are magnified.

Open-end companies. The measurement of results in the open-end company involves the calculation of the performance relative in net assets on a per share basis. The "relative" is the sum of the dividends and distributions paid out during the year and the asset value at the end of the year divided by the asset value at the beginning of the year. For example, one investment company reported net asset value per share of \$13.15 at the beginning of the year, \$15.12 at the end of the year, and dividends paid during the year of \$0.70. The result is expressed as percentage. Anything over 100 per cent is a gain, anything under 100 per cent is a loss. On this basis the performance "relative" for the year showed a gain of 20.3 per cent calculated as follows:

| | |
|---|---------|
| Net asset value at end of year..... | \$15.12 |
| Dividends paid during year | .70 |
| Total adjusted net assets at end of year..... | \$15.82 |
| Net asset value at beginning of year..... | 13.15 |

$$\frac{15.82}{13.15} = 120.3 \text{ per cent}$$

The performance "relative" is based upon two assumptions: (a) that all payments to the shareholder were spent or held in cash; (b) that there was no re-investment even of distributions from realized capital gains. It is subject, however, to the limitation in some cases of possible understatement of actual management performance in periods of rising securities prices and overstatement in periods of declining prices.

Closed v. open-end companies. Each form of investment company has certain features of significance to the investor. (a) The shares of closed-end companies may be leveraged in which case they tend to rise faster than the general market in a rising market and to decline faster in a falling market. On the other hand, the shares of open-end companies do not possess the feature of leverage. (b) The investor may encounter difficulty in buying or in selling large blocks of closed-end company shares in a slow market. On the other hand, the investor can purchase open-end company shares at any time, in any amount, and at a fixed price. In like fashion, he can liquidate his holdings instantly at their current net asset value and thus eliminate the problem of marketability. (c) Closed-end high-leverage shares are a good medium from a trading standpoint, whereas the cost involved in dealing in the shares of open-end companies makes them unsuited to trading purposes. (d) The disposal by the investor of shares in a closed-end company simply transfers the capital investment to the buyer without disturbing the investment portfolio of the company. On the other hand, the surrender by the investor of shares in an open-end company reduces cash or obliges the company to raise the required cash by the liquidation of securities held in the portfolio to the extent that cash is not received by the sale of additional shares in the fund. (e) The management of a closed-end company can concentrate upon investment of the fund since the capital is fixed in amount, whereas the management of an open-end company must emphasize the selling of shares as well as the investment of the fund.

Regulated investment company. The status of an investment company as a "regulated" company differs from its status as a

“registered” company. The term “registered” refers to its status under the Investment Company Act of 1940, whereas the term “regulated” refers to its status under Supplement Q of the Internal Revenue Code. A “regulated” investment company is one that has elected to qualify for the special tax treatment provided by Supplement Q. Supplement Q refers to the distribution of the income of an investment company, which may come from two sources: net investment income and net capital gains. Net investment income consists of interest and dividends received less expenses, while net capital gains represent net security profits arising from the sale of securities held by the company. Distributions by the company from net investment income are designated as net investment income dividends and those from net capital gains as capital gains dividends. Supplement Q provides that at least 90 per cent of the company’s gross income for any taxable year must be from dividends, interest, and gains from securities and that less than 30 per cent of its gross income for any taxable year can be derived from sales of securities held for less than three months. It also provides that at the close of each quarter of the taxable year (a) at least 50 per cent of its assets must consist of cash, cash items (including receivables), government securities, securities of other regulated investment companies, and other securities (limited to not more than 5 per cent of its assets in securities of any one issuer and not more than 10 per cent of the voting securities of that issuer) and (b) not more than 25 per cent of its assets may be in one or more issuers which it controls (20 per cent or more of voting power is control) and, if more than one issuer, which are in addition engaged in the same or a similar line of business.

Under Supplement Q the company must distribute as taxable dividends not less than 90 per cent of its net income, exclusive of capital gains, for any taxable year. Such dividends from the earnings of one year may be paid in the following year, however, provided that (a) they are declared not later than the due date of the company’s tax return, and (b) they are paid not later than the first regular dividend date after declaration. The company does not pay a tax upon the amount so distributed. The shareholder, however, is taxed on the amount received through the distribution, but at the rates applicable to income and capital gains received from his own direct investments. The Supplement eliminates the double taxation of income imposed upon business corporations.

In order to obtain this special tax treatment, the company must

elect to be a "regulated" investment company and meet certain qualifications. Almost all the open-end companies and a great many closed-end companies have elected to be "regulated investment companies. The election, once made, is irrevocable. A company which either does not so elect or cannot qualify is taxable at the regular corporate rates.

Supplement Q, therefore, is important to the shareholders for two reasons. First, it eliminates the double taxation, which would be particularly heavy in years in which net investment income includes substantial amounts of interest as distinguished from dividends or in which capital gains are realized. Second, it tends to encourage the distribution by the company each year of all realized income and gains.

Investment advisers. Investment advisers were made subject to regulation by the Investment Advisers Act of 1940. The term "investment adviser" is defined by the Act as "any person who, for compensation, engages in the business of advising others, either directly or through publications or writings, as to the value of securities or as to the advisability of investing in, purchasing, or selling securities, or who, for compensation and as part of a regular business, issues or promulgates analyses or reports concerning securities. . . ." The definition under the Act excludes "(a) a bank, or any holding company affiliate, as defined in the Banking Act of 1933, which is not an investment company; (b) any lawyer, accountant, engineer, or teacher whose performance of such services is solely incidental to the practice of his profession; (c) any broker or dealer whose performance of such services is solely incidental to the conduct of his business as a broker or dealer and who receives no special compensation therefor; (d) the publisher of any bona fide newspaper, news magazine or business or financial publication of general and regular circulation; (e) any person whose advice, analyses, or reports relate to no securities other than securities which are direct obligations of or obligations guaranteed as to principal or interest by the United States, or securities issued or guaranteed by corporations in which the United States has a direct or indirect interest which shall have been designated by the Secretary of the Treasury . . . as exempted securities . . . ; (f) such other persons not within the intent of this paragraph, as the Commission may designate by rules and regulations or order."

An investment adviser, subject to the Act, must register by filing with the Securities and Exchange Commission an application for

registration. Such registration is not required, however, if any investment adviser (a) "all of whose clients are residents of the State within which such investment adviser maintains his or its principal office and place of business, and who does not furnish advice or issue analyses or reports with respect to securities listed or admitted to unlisted trading privileges on any national securities exchange," (b) "whose only clients are investment companies and insurance companies," or (c) "who during the course of the preceding twelve months has had fewer than fifteen clients and who does not hold himself out generally to the public as an investment adviser." The Commission specifies the information required in the application for registration which must be kept reasonably current by the filing of such semi-annual and special reports as the Commission prescribes.

Investment advisory contracts, whereby a person agrees to act as investment adviser or to manage any investment or trading account for a person other than an investment company, are subject to regulation by the Commission. By the same token an investment adviser is prohibited from engaging in practices which in any way defraud clients or prospective clients. The Commission is authorized to make such rules and regulations as are necessary to enforce the powers conferred upon it by the Act.

Review Questions

1. Define an investment company.
2. Indicate the significance of the Investment Company Act of 1940.
3. Distinguish between (a) face-amount certificate companies, (b) unit investment trust companies, and (c) management companies.
4. Name the two classes of management companies.
5. What is meant by a closed-end company?
6. Compute the net asset value per share of common stock of a closed-end company which has 2,062,741 shares of common stock outstanding and which reports assets as follows:

| | |
|---|---------------------|
| Cash, etc., less current liabilities. | \$11,313,498 |
| Securities owned | 63,074,568 |
| | <u>\$74,388,066</u> |

7. Explain the meaning of leverage in a closed-end company.
8. Describe the investment policies of closed-end companies.
9. What is meant by an open-end company?
10. How are shares of open-end companies distributed?
11. Explain the calculation of the offering price of shares in an open-end company.
12. How frequently is the asset value used in determining sales price calculated?

13. What does the company do with the proceeds of sales of shares?
14. Explain the transferability of open-end company shares.
15. How may shares be redeemed?
16. Indicate the significance of investment management contracts made by open-end companies.
17. Describe the investment policies of open-end companies.
18. Classify open-end companies according to their investment policies.
19. Calculate the performance "relative" of a closed-end company on the basis of the following data:

| | |
|--|-------------|
| Net assets at end of last year | \$4,289,642 |
| Net assets at end of this year | \$4,990,778 |
| Interest paid on bank loan this year | \$ 14,687 |
| Dividends paid on common this year | \$ 160,008 |
| Increase in bank loan this year | \$ 640,000 |

20. Calculate the "chain index" of a closed-end company which reported annual performance relatives as follows: this year, 119 per cent; last year, 122 per cent; previous year, 131 per cent.
21. Compute the performance "relative" of an open-end company which reported net asset value per share of \$15.65 at the beginning of the year and of \$16.82 at the end of the year and dividends paid during the year of \$0.50 per share.
22. Compare the investment features of the shares of closed-end and of open-end companies.
23. Distinguish between a "registered" investment company and a "regulated" investment company.
24. Discuss the significance of the Investment Advisers Act of 1940.

Assignment

- (a) Compute the net asset value per share of common stock of the following closed-end investment companies:
 - (1) Company A has net assets of \$85,642,722 and 3,500,000 shares of common stock outstanding.
 - (2) Company B has net assets of \$76,423,682 and 352,000 shares of preferred stock and 6,849,765 shares of common stock outstanding. The preferred stock is entitled to \$75 a share in liquidation and has \$3.50 accrued dividends a share at the date of the statement.
- (b) Determine the asset value per share and working assets per share of a closed-end investment company with 1,000,000 common shares outstanding from the following data:

| | |
|-------------------------------|--------------|
| Total Assets | \$70,000,000 |
| Preferred Stock | \$25,000,000 |
| Common Stock Equity | \$45,000,000 |

- (c) Calculate the leverage factor in a closed-end investment company from the following data:

| | |
|--------------------------------|--------------|
| Total Assets | \$90,000,000 |
| Preferred Stock | \$30,000,000 |
| Common Stock Equity | \$60,000,000 |
| Number Common Shares | 3,000,000 |

- (d) Compute the net asset value per share of an open-end investment company, with 1,562,215 shares outstanding, from the following statement of assets and liabilities:

| | |
|----------------------------------|---------------------|
| Assets: | |
| Investments | \$22,983,152 |
| Cash on demand deposit | 1,287,593 |
| Receivables | 78,132 |
| Total | <u>\$24,348,877</u> |
| Liabilities: | |
| Accrued Expenses | \$ 3,116 |
| Accrued Taxes | 5,730 |
| Payables | 84,135 |
| Total | <u>\$ 92,981</u> |

- (e) Calculate the "performance relative" of an open-end investment company on the basis of the following data:

| | |
|--|---------|
| Net asset value per share, beginning of year | \$10.78 |
| Net asset value per share, end of year | \$11.32 |
| Dividends paid per share during year | \$.60 |

- (f) Compute the offering price per share in an open-end investment company on the basis of the following data:

| | |
|--|-----------------|
| Securities at market value | \$52,674,841.00 |
| Cash and receivables | 2,762,148.00 |
| Liabilities and accruals | 75,673.00 |
| Estimated brokerage commission per share | .08 |
| Shares outstanding | 3,762,000 |
| Sales charge: $7\frac{1}{2}\%$ of offering price | |

CHAPTER TEN

UNITED STATES GOVERNMENT OBLIGATIONS

Federal government debt. The federal government has issued obligations to meet budgetary deficits arising out of inadequacy of tax revenues and to finance personal relief, public works, national defense, agricultural benefits, corporate loans, and economic aid and mutual defense assistance to foreign nations. During the period 1920-1930 the federal budget reported an annual surplus of receipts over expenditures. During the same period the public debt was gradually reduced from \$25,482,034,000 in 1919 to \$16,185,308,000 in 1930. On the other hand, the period beginning 1931 witnessed an increase in the annual deficit of receipts over expenditures and, at the same time, a substantial increase in the public debt.¹

Gross debt. The total gross debt of the United States Government includes the direct and the indirect debt. The direct debt consists of interest-bearing and non-interest-bearing debt. The interest-bearing debt, in turn, may be divided into marketable public issues and non-marketable public issues.

Marketable issues. The marketable public issues include Treasury bonds, Treasury notes, Treasury certificates of indebtedness and bills, Postal Savings bonds, and Panama bonds.

Bonds. Treasury bonds represent long-term obligations and have maturities of five years and above. The variation in coupon rates reflects the Treasury practice of selecting a rate at the time of issue which, in accordance with the maturity, permits offering the bonds at par. One issue offered at par in 1922 carried a 4¼ per cent coupon rate whereas another offered at par in 1945 bore a 1½ per cent rate. Most of the issues have an optional maturity date. For example, the 2¾s of December 15, 1965-1960, mature

¹ The legal debt limit of \$45,000,000,000 set in 1938 was raised to \$65,000,000,000 in 1941, to \$125,000,000,000 in 1942, to \$210,000,000,000 in 1943, to \$260,000,000,000 in 1944, and to \$300,000,000,000 in 1945. The legal debt limit was reduced to \$275,000,000,000 in 1946.

in 1965 but are callable in 1960. Treasury bonds, with few exceptions, are callable as a whole or in part at par and accrued interest on any interest date on four months' notice after the call date. While Treasury bonds are listed on the exchanges, it is estimated that over 90 per cent of the trading in them occurs in the over-the-counter market through dealer houses that act as specialists in the United States Government issues and through dealer banks. Most of the trading is for institutional accounts and ranges in extent from \$100,000 to several millions.

Notes. Treasury notes, which mature in one to five years, represent medium-term obligations. Unlike Treasury bonds, the notes sold to the public are not callable before maturity. They are traded exclusively over the counter where the principal buyers are commercial banks and other investors seeking medium-term or short-term maturities. As in the case of Treasury bonds, the market is maintained by dealer specialists and dealer banks. The greater part of the trading is in multiples of \$1,000,000.

Certificates and bills. Treasury certificates of indebtedness and Treasury bills are short-term obligations which mature in one year or less. The certificate of indebtedness, which had been the principal means of short-term Treasury financing, was completely replaced in 1934 by the Treasury bill which had been first introduced in 1929. In 1942 the tremendous growth in the public debt because of war needs made it necessary for the Treasury to utilize a more diversified variety of debt instruments and, as a result, the certificate of indebtedness was reintroduced.

Treasury certificates of indebtedness carry a stipulated rate of interest and are offered at par and accrued interest. They are acceptable to secure deposits of public moneys but they are not acceptable in payment of taxes.

Treasury bills, on the other hand, are sold at auction on a discount basis at prices set by the market. Since the bills usually mature in 91 days, there is a 13-week cycle of issues. New issues of Treasury Bills are obtained only by tender to the Treasury through the Federal Reserve banks and their branches. Public announcement of offerings of Treasury bills is usually made on Thursday, tenders are received up to 2:00 P.M. (Eastern Time) on the following Monday, and the bills are usually dated and issued on Thursday of that week.

Both certificates and bills are traded only over-the-counter through dealers and dealer banks. The bills are bought chiefly by

commercial banks for secondary reserve purposes, by corporations for working capital or income tax payment purposes and, in some states where bank deposits are subject to taxation, by depositors carrying large balances who buy the bills in contemplation of the tax periods. Treasury bills have become firmly established in a broad market among financial and non-financial institutions. They not only provide a flexibility well suited to the short-term needs of the Treasury but also serve as an ideal money market investment.

Postal Savings bonds. Postal Savings 2½s were issued from 1931 to 1935 and mature twenty years from the date of issue. The Board of Trustees of the Postal Savings System will purchase the bonds at par and accrued interest to date of purchase at any time after their issue (except from June 1-30 and December 1-31, of each year, when the books are closed). All issues are callable at par one year from the date of issue.

Panama bonds. The Panama 3s of 1961 were issued in 1911 to pay in part for Panama Canal construction. They are not callable prior to maturity.

Non-marketable issues. The non-marketable public issues include U. S. Savings bonds, Treasury Savings notes, Depositary bonds, Armed Forces Leave bonds, Investment Series A and B bonds, and Savings stamps.

Savings bonds. United States Savings bonds outstanding have been issued in sequential series E, H, J, and K. Series E and H are intended chiefly for small or moderate size investors whereas Series J and K are designed for large individual and institutional investors. These bonds differ from other Treasury obligations in that they are non-transferable. They are issued in registered form only, with the name and address of the owner, and the name of the co-owner or designated beneficiary, if any, inscribed on the bond. Payment is made only to owners named thereon except in case of death or disability of the owner. Hence, the bonds may not be sold or hypothecated as collateral for a loan. They are redeemable through the Treasury Department, Federal Reserve banks, qualified banks, or other paying agents.

Series E bonds are issued at a discount (75 per cent of maturity value) in denominations of \$25, \$50, \$100, \$500, \$1,000, and \$10,000 maturity value and mature in nine years and eight months from issue date. They may be bought by one individual, by two individuals as co-owners, or by one individual with another individual as beneficiary. At maturity, the holder will receive the face

value of the bond which includes the original issue price and accumulated interest for a yield of 3.0 per cent. The bondholder is limited to the purchase of \$20,000 maturity value in any one calendar year. The bond may be redeemed at any time after sixty days from the issue date of the bond at values stipulated on the bond. Holders of Series E bonds have the privilege of retaining their matured bonds for an additional ten-year period and have interest accrue at a rate of approximately 3.0 per cent compounded semiannually regardless of when they may redeem the bond or of exchanging their matured bond for a Series K bond and receiving semiannual interest payments to give them a current income for up to 12 years thereafter at the rate of 2.76 per cent compounded semiannually.

Series H bonds are current income savings bonds and are designed as companion to Series E bonds. They are issued at par in denominations of \$500, \$1,000, \$5,000, and \$10,000. They are similar to Series E bonds in maturity date (nine years and eight months) and in types of eligible purchasers. Interest is paid semiannually in varying amounts to provide a yield of approximately 3.0 per cent a year if held to maturity. The bondholder is limited to the purchase of \$20,000 maturity value in any one calendar year. The bond may be redeemed at par after six months from issue date of the bond upon one month's notice.

Series J bonds are issued at a discount (75 per cent of maturity value) in denominations of \$25, \$100, \$500, \$1,000, \$5,000, \$10,000, and \$100,000 maturity value. They differ from Series E, however, in that they mature in twelve years and may also be purchased by non-banking corporations, partnerships, associations, and trustees. At maturity, the holder will receive the face value of the bond, which includes the original issue price and accumulated interest for a yield of 2.76 per cent. The holder is limited to the purchase of \$200,000 (cost price) of Series J bonds, or of Series J and K combined, in any one calendar year. He may redeem Series J bonds after six months from issue date of the bond upon one month's notice and at the values stated on the bond.

Series K bonds are issued at par in denominations of \$500, \$1,000, \$5,000, \$10,000, and \$100,000. They are similar to Series J bonds in maturity date (twelve years) and in the types of eligible purchasers. Interest is paid semiannually at the rate of 2.76 per cent a year. The bondholder is limited to \$200,000 (cost price) of

Series K, or Series K and J combined, in any one calendar year. The bond is redeemable at par if held by the owner for twelve years from issue date, but it may be redeemed six months from issue date on one month's notice. If redeemed prior to maturity, however, the redemption value is in accordance with the schedule stated on the bond. Series H, J, and K bonds do not have any extension privileges.

The predetermined cash value which the Treasury agrees to pay and the fact that the bonds are non-transferable relieves the holder of all risk of market decline. On the other hand, the redemption prices are so arranged as to provide yields at substantially lower rates than are obtainable if the bonds are held to maturity, as evidenced by the following yields:

| | <i>Series E</i> | <i>Series H</i> | <i>Series J</i> | <i>Series K</i> |
|-------------------------------|----------------------|----------------------|----------------------|-----------------|
| Redeemed at end of 5 years | 2 52 $\frac{1}{2}$ % | 2 49 $\frac{1}{2}$ % | 2 12 $\frac{1}{2}$ % | 2.13% |
| at maturity | 3.00 | 3 00 | 2.76 | 2.76 |

Savings notes. Savings notes have been issued in two series, C and D, the former having been issued for sale beginning September 14, 1942 and the latter beginning September 1, 1948. They are dated as of the first day of the month in which payment, at par, is received and credited by an authorized issuing agent and they mature three years from the date of issue. Interest on each \$1,000 principal accrues each month on a graduated scale. The notes are issued in denominations of \$100, \$500, \$1,000, \$5,000, \$10,000, \$100,000, \$500,000, and \$1,000,000. They may be offered at par and accrued interest from the month of issue to the month in which they are presented in payment of any Federal income taxes or any Federal estate or gift taxes assessed against the original purchaser or his estate, at any time during and after the second calendar month after the month of the purchase. If not presented in payment of taxes, the notes will be paid at maturity or, at owner's option and request, will be redeemed before maturity during and after the sixth calendar month after the month of issue without advance notice. Payment at maturity or on redemption before maturity will be made at par and accrued interest to the month of payment. In 1951 the Treasury issued a new Series A savings notes to replace the Series D notes. Dated the fifteenth of each

calendar month, they bear interest ranging from 1.44 per cent for those holding them less than six months to 1.88 per cent for purchasers who hold them for the full three years.

Depository bonds. Depository 2s, first series, are issued at par and in registered form in the name of the Treasurer of the United States in trust for depositaries and financial agents to secure deposits of federal funds with, and the faithful performance of duties by, the depositaries and financial agents who may buy the bonds in an amount for which they are qualified. They mature twelve years from the date of issue and while non-transferable, they are redeemable at any time upon not less than thirty nor more than sixty days' notice in writing as a whole or in part at par at the option of either the United States or of the holder.

Armed Forces Leave bonds. Armed Forces Leave 2½s of 1946 were issued to veterans of World War II in payment for unused leave and for this reason are referred to as "Terminal Leave" bonds. They were dated the first day of the quarter year period next following the date of the particular veteran's discharge and mature five years from that date. Issued in multiples of \$25, beginning with \$50, they are in registered form and are non-negotiable. They cannot be transferred to anyone else or pledged as collateral for loans nor can they be assigned except to Administrator of Veterans Affairs in payment of certain insurance premiums. Interest is payable at the time of redemption. They are redeemable in cash at any time at the option of the owner, or at any time in payment of the difference in reserve in the case of conversion to insurance on another plan or in payment of a policy loan made prior to July 31, 1946 on a United States Government life insurance policy or a national service life insurance policy.

Investment Series bonds. Investment Series A-1965, 2½s of 1947 were offered at par in September 1947, to insurance companies, savings banks, savings and loan associations, building and loan associations, cooperative banks, pension and retirement funds (including those of the Federal, state, and local governments), fraternal benefit associations, endowment funds, credit unions, and commercial and industrial banks holding savings deposits or issuing time certificates of deposits. Subscriptions from or for accounts of such investors, except commercial and industrial banks, were limited to an amount (adjusted to the next higher multiple of \$5,000) not in excess of 25 per cent of the increase in the amount

of net assets between December 31, 1946 and June 30, 1947, or \$250,000, whichever is greater. Subscriptions from eligible commercial and industrial banks were limited to an amount (adjusted to the next higher multiple of \$5,000) not in excess of 25 per cent of the increase in the combined amount of time certificates of deposit and of savings deposits between December 31, 1946 and June 30, 1947, or \$25,000, whichever is greater. The bonds are issued in registered form only and in denominations of \$5,000, \$10,000, \$100,000, and \$1,000,000. They are non-transferable and may not be sold, discounted, hypothecated as collateral for a loan, or pledged as security. While they are non-callable, they are redeemable prior to maturity at the owner's option on the first day of any calendar month, on one month's notice, at fixed redemption values.

In April, 1951, the Treasury offered Investment Series B $2\frac{3}{4}$ s in exchange for the outstanding Treasury $2\frac{1}{2}$ s of June 15 and December 15, 1967-1972. The $2\frac{3}{4}$ s, dated April 1, 1951, mature April 1, 1980 but are callable on April 1, 1975. They are acceptable by the Treasury at par and accrued interest in payment of federal estate taxes if at the time of death of the holder they constitute part of his estate. While they are non-marketable and non-transferable, they may be exchanged for marketable five-year $1\frac{1}{2}$ per cent Treasury notes. These notes are dated April 1 and October 1 of each year, with interest payable semiannually on April 1 and October 1 and with appropriate interest adjustments to date of exchange.

Savings stamps. United States Savings Stamps replaced the former special series of postal savings stamps commonly called Defense Savings Stamps and may be purchased in denominations of 10, 25, and 50 cents and \$1 and \$5 at any post office and at such other agencies as may be designated from time to time. The stamps bear no interest, have no fixed maturity, and are not registerable but are transferable. They may be redeemed for cash on demand at United States post offices or exchanged for United States Savings bonds, Series E, F, and G, in amounts equal to the issue prices of the respective denominations of such bonds. Since 1942 they have been issued by the Treasury as a public debt obligation of the United States.

Non-interest-bearing debt. The non-interest-bearing debt is composed principally of obligations in the form of currency and

consists of (a) notes issued to the International Monetary Fund under provisions of the Bretton Woods Agreements Act of 1945, which are non-negotiable and are payable on demand; (b) obligations to redeem National and Federal Reserve bank notes for the retirement of which the Treasury has received a deposit of lawful money; and (c) United States notes (Greenbacks).

Indirect debt. In addition to the direct debt, the Federal Government has certain indirect or moral obligations which it may be required to fulfill. These include securities issued by the territories; by federal agencies authorized to issue obligations guaranteed by, or on the credit of, the United States Treasury; and by federal agencies issuing non-guaranteed obligations.

Territorial bonds. Bonds issued by the territories, dependencies, and possessions of the United States are regarded as indirect obligations of the Federal government. Inasmuch as Congress has jurisdiction over the territories, the Federal government is at least indirectly responsible for debts incurred by the territories.

Commodity Credit Corporation. Incorporated in Delaware in 1933, the Commodity Credit Corporation was granted a permanent federal charter in 1948 and is engaged in making price-support loans to individual producers or to producers' cooperative marketing associations in certain basic and non-basic commodities. The Corporation is authorized, with the approval of the Secretary of the Treasury, to issue and have outstanding at any one time, bonds, notes, debentures and other similar obligations in an aggregate amount not to exceed \$6,750,000,000. Such obligations are fully and unconditionally guaranteed as to both principal and interest by the United States.

Federal Deposit Insurance Corporation. The Federal Deposit Insurance Corporation was organized in 1933 for the purpose of insuring the deposits of eligible banks. The Corporation is authorized to borrow from the Treasury such funds as in the judgment of the Corporation's directors are required from time to time for insurance purposes up to \$3,000,000,000. Such loans are treated as public-debt transactions of the United States.

Federal Farm Mortgage Corporation. The Federal Farm Mortgage Corporation was established in 1934 to facilitate the financing of loans to borrowers by the Federal land banks and by the Land Bank Commissioner. The Corporation is authorized, subject to the approval of the Secretary of the Treasury, to issue and have outstanding bonds not to exceed \$500,000,000. The bonds are

fully and unconditionally guaranteed, both as to principal and interest, by the United States Government.

Federal Housing Administration. The Federal Housing Administration was created by the National Housing Act of 1934 to provide for (a) long-term mortgage insurance in respect of real estate mortgages on small houses and large-scale housing projects, (b) the organization of national mortgage associations empowered to buy and sell first mortgages and to issue to the public debentures secured by insured mortgages, and (c) insuring institutions making short-term modernization and property improvement loans. Bonds issued by the Administration are fully and unconditionally guaranteed as to principal and interest by the United States by endorsement.

Public Housing Administration. The Public Housing Administration was established under the United States Housing Act of 1937 to provide financial assistance to public housing agencies. It may issue notes and other obligations for purchase by the Secretary of the Treasury up to \$1,500,000,000. The Secretary of the Treasury is authorized to sell any of the notes or other obligations and, under the Act, all redemptions, purchases, and sales by the Secretary of the Treasury of such notes or other obligations are treated as public debt transactions of the United States.

Maritime Administration. The Merchant Marine Act, as amended in 1938, created the Federal Ship Mortgage Insurance Fund for the purpose of insuring preferred mortgages on vessels of the United States Merchant Marine designed principally for domestic commercial use. Debentures issued by the Fund are fully and unconditionally guaranteed both as to principal and interest, by endorsement, by the United States.

Agency bonds. Bonds issued by agencies such as the Federal Land Banks, Federal Intermediate Credit Banks, Federal Home Loan Banks, Federal National Mortgage Association, and Federal Savings and Loan Insurance Corporation are termed "instrumentalities." The holders of these issues, however, must look solely to the issuing institutions for the safety of the bonds.

Federal Land banks. The Federal Land banks were established under the Farm Loan Act of 1916, under which the country was divided into twelve districts with a bank in each district. The function of the banks is to extend long-term mortgage credit to farmers upon the security of first mortgages on farm lands. The loans are made on an amortization basis for maturities of not less

than five nor more than forty years. Most of the loans of the banks are made through and with the endorsement of local associations of borrowers chartered under the Federal Farm Loan Act, known as National Farm Loan Associations. Both principal and interest of the outstanding bonds are joint and several obligations of the twelve banks.

Federal Intermediate Credit banks. Under the Agricultural Credits Act of 1923 the country was divided into twelve Farm Credit districts with a Federal Intermediate Credit bank established in each district for the purpose of providing seasonal credits for the production and marketing needs of farmers and stockmen. The payment of the principal and interest on the outstanding debentures is the joint and several liability of all twelve banks.

Federal Home Loan banks. The Federal Home Loan Bank Act of 1932 provided for eleven regional home loan banks to provide a credit reserve for thrift and home-financing institutions in which fields they serve a function similar to that of Federal Reserve banks in the field of commercial banking. The Federal Home Loan banks grant both short-term and long-term loans to member institutions and to non-member mortgagees approved under title II of the National Housing Act. The outstanding notes are joint and several obligations of all the Federal Home Loan banks.

Federal National Mortgage Association. Established under the National Housing Act as amended in 1938, it is authorized to purchase, service or sell certain mortgages insured by the Federal Housing Commissioner or guaranteed by the Administrator of Veterans' Affairs.

Investment Tests. Since the federal Treasury obligation is a debenture, the holder is an unsecured creditor with only a general claim against the income of the government. The two tests, therefore, are the ability to pay and the willingness to pay.

Ability to pay. A sovereign government is always able to pay its debt in some form of currency. If it is unable to pay in terms of the current currency it can debase the currency and pay in terms of the debased currency. It can even go to the extreme and employ the printing press to provide fiat money. The question, therefore, is not whether it can pay its debt at all, but rather whether it can pay the debt in terms of the current monetary standard. The ability of the government to meet its obligations in terms of the current monetary standard rests upon its taxing power and the productiveness of the taxes. The chief source of revenue is the tax on

incomes as evidenced by the following statement of receipts in the federal budget as of June 30 of a recent year (000,000):

| | |
|-------------------------|-----------------|
| Income.. . . . | \$28,262 |
| Excise.. . . . | 8,303 |
| Social Security.. . . . | 2,892 |
| Others..... | 1,853 |
| Total..... | <u>\$41,310</u> |
| Net*..... | \$37,045 |

* Total receipts less social security employment taxes, which are appropriated directly to the federal old-age and survivors insurance trust fund

The revenue from the income tax has become an increasingly important source of income both in amount and relative to total receipts. In the above statement, income tax receipts represented 76 per cent of total net receipts. It is axiomatic that the greater the public debt, the greater is the necessity on the part of the government to keep money rates low. This is especially true when a large portion of the debt matures in the near future and must be refunded. While the government has been able to borrow at a low rate, the annual interest on the public debt, however, has represented an increasing burden upon the taxpayer.

The ability of the federal government to meet its obligations depends upon the national income of the country. An estimate of national income is an attempt to measure the value of the net output of commodities and services by private and public enterprises. The net output is determined by deducting from the gross value of goods and services the value of materials and supplies and of plant and equipment consumed in the process. While the debt service is a fixed contractual obligation expressed in terms of the national currency, the burden of the debt service varies with changes in the general price level. If the general price level rises without a proportionate decline in national output, the national income, in terms of dollars, increases and as a result tax revenues increase. Under these conditions the debt service burden of the nation is lightened at the expense of the holders of the debt and of fixed-income recipients. On the other hand, if the general price level declines without a proportionate increase in national production, the national income, in terms of dollars, decreases and the debt-service burden increases. In this instance, the holders of the debt and fixed-income recipients benefit at the expense of the nation as a whole. Obviously, the greater the public debt the greater is the interest of the government in maintaining a high

national money income. It should be observed, however, that in the absence of any substantial reduction in the debt, the annual interest on the debt is permanent whereas the annual national income is subject to change. A decline in the national income would make the annual interest a greater burden.

Willingness to pay. The willingness of the federal government to pay its obligations is entirely discretionary with the government. As President Roosevelt said in his message of June 27, 1935:

There is no constitutional or inherent right to sue the government; on the contrary, the immunity of the sovereign from suit is a principle of universal acceptance, and permission to bring such suits is an act of grace, which, with us, may be granted or withheld by the Congress.

Since the federal government is a sovereign power which can be sued only with its consent, the best test of good faith must be found in the record of past transactions. A review of history reveals the repudiation by the government of continental currency after the Revolutionary War, the suspension of specie redemption of the greenback currency after the Civil War, and the refusal to convert gold certificate currency after the First World War. The last two decades witnessed subsequent abrogations of government bond clauses.

Prior to June 5, 1933, principal and interest of all outstanding interest-bearing obligations of the United States were payable in gold coin of the standard weight and fineness fixed by the Gold Standard Act of March 14, 1900, which was 25.8 grains of gold nine-tenths fine, or 23.22 grains of pure gold. The gold clause, however, was cancelled by the Joint Resolution of June 5, 1933.² The gold content of the dollar was reduced later to 15 $\frac{5}{16}$ grains of gold nine-tenths fine under authority of the Gold Reserve Act of 1934.

The United States Supreme Court on February 18, 1935, upheld the validity of the repeal of the gold clause in private contracts on the grounds that (a) the gold clause was not a contract for payment in gold coin as a commodity, or in bullion, but a contract for the payment of money, and (b) the gold clause interfered with the constitutional power of Congress to regulate currency. At the same time, in another case dealing with the liability of the federal government to redeem gold certificates in lawful currency equivalent in value to the market value of the gold coin represented by the gold certificates, the Court held that gold certificates, being currency and

²This resolution also invalidated the gold clause in non-government obligations.

constituting legal tender, could not be regarded as warehouse receipts for gold. In another case, involving the gold clause repeal as applied to United States Government bonds, the Court admitted that Congress had exceeded its constitutional authority but, following the reasoning in the gold certificate case, it held that the bondholder had failed to show actual damages and therefore was not entitled to receive an amount in legal tender currency in excess of the face amount of the bond.

Tax position. The income from federal government obligations is subject to varying degrees of exemption from income taxes. The income on all federal government obligations is exempt from state income taxes. The United States Supreme Court has held that the states have no power, by taxation or otherwise, to retard, impede, burden, or in any manner control the operations of the constitutional laws enacted by Congress to carry into execution the powers vested in the federal government.³ In subsequent opinions the Court held that a state cannot, in the exercise of the power of taxation, tax the obligations of the federal government, because such taxation would be contrary to the principle of *McCulloch v. Maryland*. The income from obligations of the federal government and the territories, therefore, is exempt from taxation by states or municipalities.

Federal obligations issued prior to March 1, 1941, still enjoy certain federal income tax exemptions. The Panama 3s of 1961 and Postal Savings bonds are wholly exempt from income taxes. While Treasury bonds issued prior to March 1, 1941, are exempt from the normal tax and the surtax, the surtax exemption applies only up to \$5,000 principal; above \$5,000 is subject to the surtax. Federal Land bank bonds are exempt from federal income taxes; Home Loan bank bonds are exempt from the federal normal tax but are subject to the surtax. Treasury bills do not have any tax-exempt features.

All federal obligations issued beginning March 1, 1941, however, are fully taxable. The Act of February 19, 1941, provided:

. . . interest upon . . . obligations issued on or after . . . (March 1, 1941) . . . by the United States or any agency or instrumentality thereof shall not have any exemption as such . . . under Federal tax acts now or hereafter enacted. . . . For the purposes of this subsection a territory, a possession of the United States, and the District of Columbia, and any political subdivision thereof, and any agency or instrumentality of any one or more of the foregoing shall not be considered as any agency or instrumentality of the United States.

³ *McCulloch v. Maryland*, 316 (1819).

Obviously bonds which still retain tax-exempt features sell at higher prices than the taxable bonds. For example, Treasury 2s of December 15, 1948-1950, were selling to yield 1.18 per cent when the 2s of March 15, 1948-1950, were selling to yield 1.6 per cent. The lower yield for the December 15 issue was due to the fact that it was partially tax-exempt, whereas the March 15 issue was fully taxable. In 1941 and early 1942 the prices of partially tax-exempt obligations declined owing to the outbreak of war and the uncertain future tax status of the issues. The uncertainty was caused by the removal of tax-exemption from future issues of Treasury securities and by Treasury advocacy of federal tax levies against the income from future issues of state and municipal obligations. The prices of those partially tax-exempt securities returned to their previous levels, however, upon assurance of retention of their tax-exempt status. During late 1942 and early 1943, the prices of those issues again declined as a result of activity by life insurance companies and other non-taxpaying institutions. Those institutional investors replaced their partially tax-exempt obligations with taxable securities producing a high yield. The completion of those portfolio adjustments witnessed a sharp rise in the prices of the partially tax-exempt issues. On the other hand, prices of taxable issues maintained a fairly steady level following the decline at the opening of the war. That stability was due largely to the governmental policy of establishing and maintaining a fixed pattern of interest rates for wartime financing.

Federal obligations are not exempt from federal or state inheritance taxes, nor are state or territorial obligations exempt from the federal estate tax. The estate or inheritance tax is not considered a tax upon property but rather upon the right to dispose of property.⁴ The tax is imposed by the government for protection accorded during the life of the decedent and is an obligation which cannot be evaded or defeated by the particular form in which the property of the decedent was invested.

Accrued interest. The accrued interest on a United States Treasury bond is calculated on the basis of the exact number of days falling within the interest period. For example, in the instance of a 2 per cent bond, the interest on which is payable June 15 and December 15, there are 183 days in the interest period June 15 to December 15 and 182 days in the interest period December 15 to June 15, computed as follows:

⁴ *Plummer v. Coler*, 178 U. S. 115 (1900).

| <i>June 15–December 15</i> | | <i>December 15–June 15</i> | |
|----------------------------|---------|----------------------------|---------|
| June | 16 days | December | 17 days |
| July | 31 | January | 31 |
| August | 31 | February | 28 |
| September | 30 | March | 31 |
| October | 31 | April | 30 |
| November | 30 | May | 31 |
| December | 14 | June | 14 |
| <hr/> 183 days | | <hr/> 182 days | |

If, in a bond transaction, the interest accrues through December 5, it has accrued for a period of 174 days.⁵ Since the interest payment for the interest period June 15–December 15 is \$10, the accrued interest represents $174\frac{1}{183}$ of \$10, or \$9.508197.

Features. The federal government bond market has become the most important part of the investment market and is marked by many features. The tremendous increase in direct obligations of the government has given federal government bonds a dominant position. The financing by the government of its budgetary deficits during the period 1933-1940 was facilitated by the large inflow of gold which broadened the credit base and thereby supported the demand of banks for new securities. With the diminished inflow of gold in May, 1941, and the outbreak of the war in December, 1941, the government adopted a war financing plan which called for (a) the meeting of a large percentage of war expenditures through increased tax levies and (b) the borrowing of the balance of the expenses from non-commercial bank investors. Until the plan could be put into effect, however, the banks were called upon to supply a large part of the needed funds. The amount of funds needed was so large that banks had to abandon the practice of maintaining large excess reserves. To facilitate those changes in banking practice, the monetary authorities, i.e., Federal Reserve Board and Treasury, (a) assured the banks of sufficient reserves to meet any needs which might arise, (b) issued a large volume of short-term obligations which, because of their high degree of liquidity, lessened the necessity for banks to maintain excess reserves, and (c) adopted a policy of fixed interest rates for the duration of the war. The pattern of war financing as evolved by the Treasury in 1942 provided for rates ranging from $\frac{3}{8}$ of 1 per cent for three months' Treasury bills to 2 per cent for ten-year bonds, the longest-term securities to be offered to commercial banks. Offerings of longer-term $2\frac{1}{2}$ per cent bonds were designed to serve the needs

⁵ A Treasury bond is deliverable on the day following the sale.

of others than commercial banks for long-term permanent investments.

During the nineteen months following the outbreak of the war, commercial banks increased their holdings of government securities by approximately \$30,000,000,000. Inasmuch as the deposits created by those purchases represented a potential danger as a basis for an inflationary rise in commodity prices, commercial banks were not eligible to participate in the Third War Loan and were restricted in their subscriptions to the subsequent loans. The Seventh War Loan excluded 2 per cent bonds and restricted bank ownership of the longer-term issues until ten years before maturity. For example, the 2 $\frac{1}{4}$ s of June 15, 1962-1959, issued in 1945, were restricted until June 15, 1952, for bank ownership. Commercial bank demand for bonds available to them in the open market was intensified, causing a price advance for the outstanding 2 per cent issues and a general reduction in the yields on Treasury bonds.

The federal bond market is the only domestic securities market that has been actively supported by the government. The Federal Reserve System and the Treasury, through the Open Market Committee, have supported the market by buying federal issues when they have shown signs of weakening in price and by selling when an undue rise in price is in prospect. This was evidenced when the Federal Reserve banks and the Treasury purchased \$450,000,000 of government bonds at the outbreak of the war in Europe in September, 1939, and again by the purchase of \$130,000,000 of bonds in December, 1941, after Pearl Harbor was attacked. The federal Open Market Committee sought to maintain stable yield relationships between the different maturity groups of Treasury obligations by purchasing or selling specific Treasury issues. In order to offset the effects of the increase in currency circulation, the earmarking of gold for foreign account, and the transfer of funds to the accounts of foreign central banks with the Reserve banks, the Committee maintained a fixed general level of interest rates by absorbing Treasury securities. The Federal Reserve banks stood ready to make loans to member banks at $\frac{1}{2}$ of 1 per cent against short-term government obligations and to buy all Treasury bills offered at a fixed rate of $\frac{3}{8}$ of 1 per cent. Effective August 3, 1942, purchases of such bills, if desired by the seller, were made on condition that the Reserve bank, upon request before maturity, would sell back bills of like amount and maturity at the same rate of discount.

In April, 1946, however, the Federal Reserve Board rescinded the

$\frac{1}{2}$ of 1 per cent preferential discount rate against short-term governments and in July, 1947, it "unpegged" the $\frac{3}{8}$ of 1 per cent rate on buying Treasury bills in effect since April, 1942. In March, 1951, the Government bond market passed from a pegged to a free basis as the result of an agreement between the Treasury and the Federal Reserve Board on public debt management and bank credit control. Although the Federal Open Market Committee still stood ready to give effect to the "orderly market" principle, the pegs on which the Treasury had insisted were withdrawn. Simultaneously with a return of the free market, the Treasury announced the terms of the new issue of nonmarketable $2\frac{3}{4}$ per cent bonds. The offering of the new security was for the purpose of encouraging long-term investors to retain their holdings of Government securities in order to minimize the monetization of the public debt through the liquidation of holdings of the Treasury bonds of 1967-1972.

Although a very small part of the trading in government issues occurs on the New York Stock Exchange, they enjoy a very high degree of marketability. It is estimated that some twenty dealer firms stand ready at all times to buy or sell any Treasury issue and this accounts for approximately 95 per cent of all the trading done in government securities. Eleven of these twenty firms have been selected by the Federal Reserve System as privileged to do business with the Federal Reserve Bank of New York. They have agreed to provide the Federal Reserve Bank, at the end of each day, with comprehensive data on their operations. This data includes the amount of money they may have borrowed, their "long" and "short" positions in governments, and the volume of transactions. Orders in federal issues are readily executed and trading in them is exempt from government regulation, including margin requirements of the Federal Reserve Board.

Government issues are the basis of the investment market. Should they become worthless, no corporate security could have value. The strength of government obligations lies in confidence in the stability of the government and in its ability and willingness to meet its obligations.⁶

Review Questions

1. Name the purposes for which the federal government incurs debt.
2. Indicate the relation between the budgetary surplus or deficit and changes in the federal debt.

⁶ Government bonds sold in the 70's in 1921 not because of fear for the credit of the government but because of the high interest rates prevailing at that time.

3. Indicate the composition of the gross federal debt.
4. Name the kinds of Treasury obligations based upon maturity.
5. Indicate the range of coupon rates on Treasury bonds and the basis of selection of the rate.
6. Are Treasury bonds callable for redemption prior to maturity?
7. Explain the following quotations on a U. S. Treasury bond as reported on the financial page of *The New York Times*:

| | | |
|-----------------|------------|--------------|
| Stock Exchange: | Bid 116.20 | Asked 116.22 |
| Dealers: | Bid 116.21 | Asked 116.23 |

8. What is the range of coupon rates on Treasury notes?
9. Are Treasury notes callable for redemption prior to maturity?
10. Indicate the market in which Treasury notes are traded.
11. Distinguish between Treasury bills and Treasury certificates of indebtedness.
12. Indicate the market for Treasury bills and certificates.
13. Contrast U. S. Savings bonds and Treasury bonds on the basis of maturity, transferability, and redeemability.
14. Distinguish between Series E, H, J, and K Savings bonds.
15. What are the instrumentalities of the federal government?
16. Are Treasury obligations secured or unsecured?
17. Name two tests of federal government bonds.
18. What are the government's chief sources of revenue?
19. Indicate the growth in the annual interest on the federal debt.
20. What would be the position of the holder of a Treasury obligation if it were in default?
21. Are federal obligations subject to state income taxes?
22. Are federal obligations subject to federal income taxes?
23. Are federal obligations subject to federal and state inheritance taxes?
24. Compute the accrued interest on a 2 per cent Treasury bond, interest payable June 15 and December 15, purchased on Wednesday, April 10.
25. Describe the important features of the federal government bond market.
26. Discuss the investment position of federal government bonds.

Assignment

- (a) Compute the price on a U. S. Treasury bond selling at (1) 100.3; (2) 100.15; (3) 101.27.
- (b) Compute the accrued interest on a U. S. Treasury $2\frac{1}{2}$ per cent bond, interest payable March 15 and September 15, bought on Monday, March 2. Compute the accrued interest on the same bond bought on Friday, November 16.
- (c) Indicate when interest is paid on U. S. Savings bonds, Series E, H, J, and K, respectively.
- (d) Interpret the maturity on U. S. Treasury $2\frac{1}{2}$ s of 1972-1967.
- (e) Calculate the price of U. S. Treasury bonds selling at 100.18+.
- (f) Semiannual interest on a U. S. Treasury bond is payable March 15 and September 15. If the Treasury elects to call the bond for redemption on

September 15 what is the last date on which it may announce the intention to redeem?

- (g) Indicate the date on which each of the following restricted Treasury bonds will become eligible for purchase by commercial banks: (1) $2\frac{1}{2}$ s, March 15, 1971-1966; (2) $2\frac{1}{2}$ s, March 15, 1970-1965; (3) $2\frac{1}{2}$ s, December 15, 1969-1964.

CHAPTER ELEVEN

STATE BONDS

State debt. State governments borrow funds through the issuance of bonds principally to finance the construction of long-term improvements such as highways, park developments, state institutions, grade-crossing elimination, and waterways, and to finance emergency unemployment relief. The total debt of New York State, for example, recently amounting to \$835,334,000, consisted of bonded debt of \$827,543,000 and temporary capital loans of \$7,791,000:

| | |
|-----------------------------------|----------------------|
| Term Bonds: | |
| Highways | \$ 80,000,000 |
| Palisades Interstate Park | 5,000,000 |
| Forest preserve | 2,500,000 |
| Canals | 133,000,000 |
| Total | <u>\$220,500,000</u> |
| Serial Bonds: | |
| Highways | \$ 8,800,000 |
| Forest preserve | 2,200,000 |
| Canals | 2,992,000 |
| Institutions—buildings | 36,900,000 |
| Park system | 6,646,000 |
| General improvement | 35,115,000 |
| Grade-crossing elimination . . . | 119,915,000 |
| Emergency construction | 18,600,000 |
| World War bonus | 271,800,000 |
| Housing | 104,075,000 |
| | <u>\$607,043,000</u> |
| Total bonds | \$827,543,000 |
| Temporary capital loans | 7,791,000 |
| Grand total | <u>\$835,334,000</u> |

Restrictions on debt. Many states have placed restrictions upon the creation of state debt. The most common restrictions provide that the credit of the state cannot be used for private benefit, that bonds may be issued only for long-term improvements, and that

large issues must be approved by a popular referendum. Arkansas adopted a constitutional amendment in 1934 which provided that no new bonded debt pledging the faith and credit of the state could be issued without the consent of the electorate except for refunding purposes and for assuming and refunding valid road-improvement district bonds. In addition to the usual restrictions mentioned above, New York requires that all bonds must be serial in form, that all bonds must mature within the estimated life of the improvement, and that the proceeds of each issue must be segregated into a special fund to be used only for the designated purpose and not combined with the general funds of the state. Over half of the total bonded debt of New York has been composed of serial bonds. The State Constitution was amended in 1938 to permit the issuance of callable bonds. A legislative act passed in 1943 specified the maximum maturity for certain bonds by providing for general improvement bonds up to forty years, grade-crossing bonds up to forty years, and housing bonds up to fifty years, but granted the State Comptroller permission to issue serial bonds for a lesser period. Under these amendments, the state issued \$12,000,000 of grade-crossing bonds in 1943 with a maturity of twenty years but callable after ten years. They mature at the rate of \$600,000 annually up to and including 1963. This issue marked the first time the state had borrowed for twenty years instead of forty for grade-crossing elimination purposes and the first time that it had issued a callable bond.

State expenditures. The expenditures of a state consist of expenditures for operating expenses and debt service and for capital purposes. Expenditures for debt service include the annual interest charges and the provision for repayment of the principal, which may involve the redemption of maturing serial issues or provision for a sinking fund. The debt service of New York State recently, for example, amounted to \$44,667,238 and consisted of \$27,066,853 principal and sinking fund and \$17,600,385 interest.

Tests. State bonds, in general, like federal government issues, are debenture obligations and are secured simply by the promise of the state. Two tests may be applied to the analysis of state bonds: (a) capacity to pay and (b) willingness to pay.

Capacity to pay. Like the federal government, the capacity of a state to meet its obligations depends upon the taxing power and the revenue derived from the taxes. The relative dependence of

states upon the various types of taxes is indicated by the following percentage of all taxes collected: ¹

| | | | |
|-------------------------|------|-------------------------------------|-----|
| Gasoline. | 18.6 | Licenses on specific occupations... | 2.2 |
| Retail sales | 21.7 | Tobacco | 5.3 |
| Income. | 16.8 | Insurance companies | 2.9 |
| Motor vehicle | 9.0 | Utility excise | 2.3 |
| Alcoholic beverages.... | 6.8 | Inheritance and gift | 2.4 |
| Property... .. | 3.8 | Miscellaneous. | 8.1 |

The revenue of the State of New York, for example, is derived from general business, excise, income, and transfer taxes. The revenues received for a recent year ending March 31, were as follows:

| | |
|------------------------------|----------------------|
| General business taxes | \$236,901,677 |
| Excise taxes | 255,060,271 |
| Personal income tax. | 135,642,463 |
| Taxes on transfers..... | 72,626,505 |
| Miscellaneous..... | 1,615,831 |
| | <u>\$701,846,747</u> |
| Other revenues..... | 25,667,194 |
| Total..... | <u>\$727,513,941</u> |

Net debt percentage. The capacity of a state to meet its obligations may be measured by three tests: (a) net debt percentage, (b) net debt per capita, and (c) debt service/total revenue receipts. Net debt percentage is the relation between the net debt of the state and the assessed value of taxable property in the state. Net debt represents the gross debt less sinking funds and self-supporting debt. The direct debt of a state consists of obligations in support of which the full faith and credit of the state are pledged. For example, the State of West Virginia issued \$2,000,000 of road bonds, maturing 1949-1973, which constituted valid and binding obligations of the state for the payment of which the full faith and credit of the state were pledged. Although the principal and interest on the bonds are payable primarily and without priority from state motor vehicle and gasoline taxes, they are also supported by ad valorem taxes which may be levied against all the taxable property in the state within the limits prescribed by law. A self-supporting debt, on the other hand, is one which is supported by special levies. The State of Delaware, for instance, issued \$40,000,000 of Delaware Memorial 4 per cent revenue bonds due 1978 for the purpose of providing funds for the construction of the Delaware Memorial Bridge and for the acquisition of certain ferries. Although the issue constituted a valid and binding obligation of the State of Delaware, the principal and interest are payable solely from reve-

¹ U. S. Department of Commerce, State Tax Collections in 1949.

nues derived from operation of the bridge. The faith and credit of the state are not pledged for the payment of principal or interest and the state is not obligated to levy any taxes or to make any appropriation for their payment. Since sinking funds and self-supporting debt do not represent a burden on the taxpayer, they are eliminated from the gross debt in order to determine the net debt for the support of which taxes must be levied. For example, New York State with a gross debt of \$835,334,000 and sinking funds of \$160,150,801 had a net debt of \$675,183,199. Some states, on the other hand, are classed as debt-free states. This does not necessarily mean that the state is free of debt but rather that it has accumulated a sinking fund equivalent to the gross debt. For example, North Carolina in 1945 had a gross debt of \$47,501,000 and sinking funds of \$6,750,000. A legislative act transferred \$51,585,000 from the general fund surplus to the sinking fund, thereby increasing the sinking fund to \$58,335,000.

The assessed valuation of taxable property in a state represents the property available for taxation in support of the net debt. A net debt of \$675,183,199 for New York State, for example, represented 2.4 per cent of the assessed valuation of \$27,509,285,000.

The appraisal of the net debt percentage, however, is limited by two factors. In the first place, assessment methods vary greatly throughout the state and the country. A net debt percentage of $2\frac{1}{2}$ per cent in a state using an average appraisal basis of 80 per cent of market value is equivalent to a net debt percentage of 2 per cent on a 100 per cent rate of assessment. For example, a state with a net debt of \$100,000,000 and an assessed valuation of \$4,000,000,000 on an 80 per cent rate of assessment has a net debt percentage of $2\frac{1}{2}$ per cent ($\$100,000,000/\$4,000,000,000$). On a basis of 100 per cent rate of assessment, however, the total assessed valuation would be \$5,000,000,000 and hence a net debt percentage of 2 per cent ($\$100,000,000/\$5,000,000,000$). In like manner, a net debt of \$100,000,000 on an assessed valuation of \$2,500,000,000 with a 40 per cent rate of assessment would show a net debt percentage of 4 per cent. On a 100 per cent rate of assessment, the net debt percentage is 1.6 per cent ($\$100,000,000/\$6,250,000,000$). The average rate of assessment in New York State one year was 92.96 per cent with \$27,509,285,000 assessed valuation and \$675,183,199 net debt. On a 100 per cent basis, the estimated true valuation in the state was \$29,592,604,346 and the net debt percentage was 2.2 per cent. In the second place, the state receives the greater part of its

revenue from sources other than general property taxes; some states do not levy a general property tax.

Net debt per capita. Net debt per capita seeks to express the debt burden in terms of population. For example, New York with a net debt of \$675,183,199 and a population of 13,479,142 had a net debt per capita of \$50.09. In analyzing the net debt per capita, however, consideration must be given to the growth in population of the state relative to that of the country as a whole. It is reasonable to expect a state to enjoy a rate of increase comparable to the country in order to maintain its economic position. The rate of increase of New York, for example, has compared very favorably with that of the entire country. The rate of increase has been as follows:

| | U. S. | N. Y. |
|-----------|-------|-------|
| 1900..... | 20.7% | 21.6% |
| 1910..... | 21.0 | 24.6 |
| 1920..... | 14.9 | 14.2 |
| 1930..... | 16.1 | 21.1 |
| 1940..... | 7.0 | 7.1 |

Furthermore, a state with a large amount of wealth can more conveniently carry a higher per capita net debt than a state with more limited wealth.

Debt service/total revenue receipts. The capacity to pay may be further tested by the relation of the annual debt service to the total receipts. The annual debt service comprises interest, repayment of principal on serial bonds, and appropriations for sinking funds. The debt service of New York State amounting to \$44,667,238 represented 6.1 per cent of total revenue of \$727,513,941. As a rule, the debt service of a state should represent less than 15 per cent.

Willingness to pay. The sovereign position of the state makes willingness to pay a very important factor to investors in state bonds. Under the Federal Constitution, the state is not subject to interference from the federal government. This was definitely established by the Tenth and Eleventh Amendments. The Tenth Amendment, effective December 15, 1791, provided that: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively or to the people." When in 1793 Chisholm, a citizen of the State of North Carolina, holding a defaulted bond of the State of Georgia, sued the State of Georgia in the federal courts, his right to sue was upheld.² The Eleventh Amendment, adopted to protect state sov-

² Chisholm v. Georgia, 2 Dall. (U. S.) 419.

ereignty, provided that "the judicial power of the United States shall not be construed to extend to any suit in law or in equity, commenced or prosecuted against any one of the United States by Citizens of another State, or by Citizens or Subjects of any Foreign State." In other words, one state may sue another state, but an individual, personal or corporate, cannot sue a state without the latter's consent. The Constitution of New York State, however, specifically grants this permission:³

The legislature shall annually provide by appropriation for the payment of the interest upon and installments of principal of all debts created on behalf of the State . . . as the same shall fall due, and for the contribution to all of the sinking funds. . . . If at any time the legislature shall fail to make any such appropriation, the comptroller shall set apart from the first revenues thereafter received, applicable to the general fund of the State, a sum sufficient to pay such interest, installments of principal, or contributions to such sinking funds, as the case may be, and shall so apply the moneys thus set apart. The comptroller may be required to set aside and apply such revenues . . . at the suit of any holder of such bonds.

Default record. The willingness of states to meet their obligations may be judged in part by the record. The record, however, is not entirely free of defaults. At three different periods, numerous states have defaulted in the payment of interest and principal on outstanding bonds.⁴ In most cases the defaults represented repudiation rather than postponement of the payment. In more recent years the State of Arkansas attempted to force holders of its bonds to accept new bonds at a lower rate of interest by refusing to continue interest payments on the older issues.⁵ Analysis of the record of the states shows that when the debt burden becomes excessive and the tax burden too heavy, states do repudiate their bonds. Legally, the debt service ranks equally with the operating expenses in a claim against the tax revenues. In some instances, however, budget deficits have led the states to subordinate the claim of the debt service. In the last analysis, therefore, willingness to pay is closely related to convenience and convenience is largely dependent upon capacity.

Tax-rate limitation. The capacity of a state to pay must be considered in terms of the nature of the constitutional limitation, if any, on the tax rate. Some states include the debt service in this limitation; others exclude the debt service. For example, Alabama

³ Article VII, section 16, State Constitution.

⁴ During 1840-1842, 1848-1860, and 1865-1883.

⁵ The older issues carried coupon rates ranging from 4¼ to 5 per cent. Under a refunding program adopted in 1934, however, provision was made for the eventual payment of interest in full.

limits state taxation to 0.65 per cent of taxable property,⁶ and North Carolina restricts the state tax to five cents on one hundred dollars of property value, without exception in each instance for debt service. The Constitution of South Carolina, on the other hand, places no limit upon the rate of property taxes which may be levied by the state. The Constitution of New York State provides that if annual appropriations are not made for the debt service charges by the legislature, the State Comptroller must make such provision from the first general revenues thereafter received. In 1943 Arkansas adopted a law which is applicable in instances where the specific funds from which direct obligations are payable become depleted so that default of principal or interest seems imminent. Under the law the State Investment Board may purchase such securities out of state treasury balances for bond purchase account and redeem the securities later from money received by the respective funds.

Investors in state bonds must rely primarily upon the good faith of the state and should prefer the obligations of those states which pledge their "full faith and credit," whose constitutions provide for unlimited taxation for debt service, and whose tax revenues are adequate.

Position of state bonds. The market for state bonds is largely institutional, the demand coming from banks, trustees, and insurance companies and from some wealthy individual investors. The appeal arises from the tax-exemption features, eligibility as legal investments, and acceptability for surety deposits. Interest on state bonds is fully exempt from federal income taxes upon the principle of reciprocal freedom from taxation as stated by the United States Supreme Court in *Pollack v. Farmers' Loan & Trust Company*.⁷

As the states cannot tax the powers, the operations, or the property of the United States, nor the means which they employ to carry their powers into execution, so it has been held that the United States have no power under the Constitution to tax either the instrumentalities or the property of a State.

The interest on many state bonds is fully exempt from state income taxes by the state of issue if locally owned. The interest may be taxed, however, by another state if located or owned in the taxing

⁶ In 1911 the legislature changed the basis of assessment from 100 per cent to 60 per cent; consequently, since that date only 0.39 per cent (60 per cent of 0.65) of the full value has been levied.

⁷ 157 U. S. 429, 584 (1895).

state.⁸ The appeal of state bonds for surety deposits arises out of the fact that they may be used by banks in lieu of surety bonds to guarantee the safety of deposits of state funds and by insurance companies under the state laws requiring policy guarantees.

Review Questions

1. Name the purposes for which state governments borrow.
2. Name the usual constitutional restrictions upon the creation of state debt.
3. Name the restrictions in New York State.
4. Name the general classes of state expenditures.
5. Indicate the two tests of a state bond.
6. Indicate the basic factor in the capacity of a state to meet its debt.
7. Distinguish between net debt percentage, net debt per capita, and debt service/total revenue receipts as tests of capacity to pay.
8. Explain the significance to the bondholder of the Tenth and Eleventh Amendments to the federal Constitution.
9. Indicate the priority of claim of debt service and operating expenses against the tax revenues.
10. Discuss the tax position of state bonds.
11. Comment on the market for state bonds.

Assignment

- (a) Compute the net debt percentage (on a 100 per cent basis) and net debt per capita from the following data:

| | |
|-------------------------------|------------------|
| Assessed valuation..... | \$25,753,000,000 |
| Total bonded debt..... | 635,544,000 |
| Sinking funds..... | 145,372,000 |
| Population..... | 13,479,142 |
| Average rate of assessment... | 80% |

⁸ In October, 1881, the United States Supreme Court decided in the case of *Bonaparte v. Tax Court* (104 U. S. 592) that the Constitution does not prohibit a state from including in the taxable property of her citizens so much of the debt of another state as they hold regardless of whether the debtor state may exempt such debt from taxation or actually tax it.

CHAPTER TWELVE

MUNICIPAL BONDS

Introduction. Municipalities are public corporations organized under a general corporation law of the state or by special charter under a separate legislative act and possessing certain powers delegated by the state which permit them to act as agencies for local administration. Municipalities raise the necessary funds to finance their activities by levying taxes and by borrowing.

Kinds of agencies. Municipal bonds are issued by three types of agencies: (a) regular governmental units, such as counties, cities, towns, villages, and boroughs; (b) special tax districts, such as school districts or sewer districts; and (c) statutory authorities, such as bridge authorities or port authorities.¹

Purposes of borrowing. The purposes for which a municipality may borrow are usually stated either in the state constitution or in the municipal charter. In general, municipal bonds are issued to finance such public improvements as buildings, fire equipment, parks, schools, sewerage disposal plants, water supply facilities, street improvements, and many other improvements.

Bond maturities. In recent years many states have prohibited the issuance of municipal bonds with maturities beyond the estimated life of the improvement financed by the issue of the bond. The New York State Constitution requires the legislature to fix the maturities for various types of bonds issued by counties, cities, towns, and districts in the state. In accordance with this provision, legislation has been adopted which seeks to assure that bonds issued by the local governments will not remain outstanding after the project for which they have been issued has ceased to be useful. The periods of probable usefulness set by the law are 50 years for

¹ State bonds are also considered as a class of municipal bonds in the securities markets. The bond issues used in compiling the Dow-Jones municipal yield index include the following state bonds: New York State 4s, North Carolina 4s, Illinois 4s, Missouri 4s, and California 4s.

water systems, docks, and rapid transit; 30 years for grade-crossing elimination; 20-40 years for bridges and tunnels; 20 years for sewer systems and electric light and power or gas systems; 10 years for airports and parks; 5-10 years for roads; 5 years for fire apparatus; and varying periods for buildings according to the type of construction.

The New York law also provides that bonds must mature in annual installments. The first installment must be paid not more than one year after the date of issue or not more than two years after the date of the certificates of indebtedness or notes issued in anticipation of the sale of the bonds. The last installment must mature not later than the expiration of the period of probable usefulness of the object or purpose for which the bonds were issued. In no event may the last installment be more than forty years, except as expressly authorized. No installment may be more than 50 per cent in excess of the smallest prior installment.

Classes of bonds. Municipal bonds are either general or limited obligations. General obligations are those for which the full faith and credit of the municipality is pledged. The municipality agrees unconditionally to pay the obligation from the general revenues. Limited obligations, on the other hand, are payable solely out of special assessments or revenues. Limited obligations consist of special assessment bonds and revenue bonds.

Special assessment bonds. Special assessment bonds are sometimes issued to finance such improvements as streets, sewers, or sidewalks. To meet the interest and principal of these obligations, the municipality levies special assessments (which are in addition to the regular taxes) upon the property legally benefited by the improvement and earmarks the revenues received from those special assessments for the support of the debt service on the bonds. Some special assessment bonds are a claim against the special assessments levied and collected but, in addition, the municipality pledges that if the proceeds of the special assessment prove inadequate the bonds will become a charge against the full faith and credit of the municipality. Other special assessment bonds are payable only from the money collected from the special assessments. The municipality simply acts as trustee and is not legally bound to pay the interest or principal. It is liable only for due diligence in levying and collecting the special assessments and in applying the proceeds to the payment of the bonds.

Revenue bonds. Municipal revenue bonds are bonds issued by

a municipality to finance the construction, acquisition, enlargement, or improvement of a public utility facility, such as a water works or an electric light and power plant.² The bonds are payable out of the revenues derived from the operation of the project. Seattle, Washington, for example, has outstanding municipal revenue bonds consisting of water revenue bonds, light and power revenue bonds, and street railway revenue bonds. The principal and interest of the bonds are payable solely from the revenues of the respective utilities. Under a revenue bond the municipality agrees to operate the property and to use the receipts for the payment of the debt. It does not agree, therefore, to levy taxes or to make appropriations from the general fund in the event the utility revenues prove inadequate to meet the debt service on the revenue bonds. There is usually a covenant in the bond indenture, however, under which the municipality is charged with the responsibility of levying rates or charges sufficient to cover debt service and to maintain and operate the project in a satisfactory manner.

The increase in the use of this type of bond has been especially rapid since 1930—a period characterized by a marked increase in public ownership of utility properties. Municipalities have been attracted to the use of those bonds as a means of keeping down (a) the regular debt, since revenue bonds are not included in the net direct debt, and (b) the tax rate, since the revenue bonds are not payable out of the general taxes.

Revenue bonds have been considered as equal to general lien bonds on the ground that they are a lien against projects that are self-supporting, self-liquidating, and independent of tax collections. In some instances the interest on revenue bonds has been paid in full while the city has been in default in the payment of interest on its general lien bonds. In other instances, however, declining revenues have threatened interest payments on some revenue bonds. Default in a revenue bond usually occurs because of inadequate revenues which may be merely temporary or more or less permanent. If the latter, the usual solution has been to reduce the debt service and other charges to a point where the bonds can be exchanged for obligations that can be met from the available earnings. Such a compromise frequently has been considered better than involved legal proceedings. The best record has been made by reve-

² Regular governmental units and tax districts occasionally issue revenue bonds, but statutory authorities use this type of financing almost exclusively.

nue bonds issued to finance water works. The low default record in those bonds has been due in large part to the fact that municipal water works have a monopoly on a fundamental service which is indispensable to individual consumers.

Tax districts. Tax districts represent a special form of municipal government created for a specific limited purpose, that is, schools, parks, sewers, hospitals, irrigation, drainage, flood control, and roads. Typical of these districts are the Toledo City School District (Ohio), Chicago Park District (Illinois), Chicago Sanitary District (Illinois), Fairfax Drainage District (Kansas), and Miami Conservancy District (Ohio). A tax district may encompass part or all of a city or it may include several cities. The Board of Education of the city of Chicago, for example, is the corporate title of a tax district comprising the same territory as that included within the boundaries of the city of Chicago. The Albany Port District is coextensive with the cities of Albany and Rensselaer, located on opposite sides of the Hudson River. The District has erected and maintains port facilities.³ The Miami Conservancy District in Ohio was organized for the prevention of floods and covers portions of nine counties and includes the cities of Dayton, Hamilton, Middletown, Piqua, and Troy.

A tax district, like a regular governmental unit, has the power to levy taxes upon property within its jurisdiction. The payment of taxes levied by the district is just as mandatory upon the property owner as the payment of general taxes.

Investment position. The investment position of tax district bonds depends upon (a) the purpose for which the district was created and (b) the taxable wealth in the district. Experience of investors with school and port district bonds has been more favorable than with road, drainage, or irrigation district bonds. The excellent record of school district bonds, as a class, has been due to the fact that (a) education is accepted as a basic need in every community, and (b) the greatest expansion of these facilities has occurred in rapidly developing areas. The poor record of drainage and irrigation district bonds, on the other hand, has been due largely to the fact that heavy assessments have materially increased farm overhead beyond the ability of the taxpayers to pay.

Authorities. Authorities are public corporations created by a

³ The District is governed by a commission of five members, four of whom must be residents of the city of Albany and one of the city of Rensselaer.

special act of the legislature to finance the construction and operation of such revenue projects as bridges, highways, power plants, and port facilities. They differ from municipalities and tax districts in that they do not possess the power to tax but must depend upon the projects to produce the necessary revenues. The Port of New York Authority does not have the power to levy taxes but must derive its income from tolls, rents, and other charges for the use of its bridges, tunnels, and terminal buildings. The Pennsylvania Turnpike Commission was authorized to construct, operate, and maintain a toll turnpike through the Allegheny Mountains. The turnpike, which is 327 miles long, extends from east of Philadelphia, to the Ohio border. The bonds issued to finance the project are supported by the revenue derived from tolls.

While the strength of authority bonds depends upon the toll revenues, more fundamentally it rests upon the strategic importance of the project. The bonds of the Port of New York Authority, as originally issued, were secured basically by the toll revenues of the specific project for which they were issued. The varying profitable operation of each of the projects was reflected in the market prices of the respective issues. The Authority has since refunded those issues into new bonds which, in contrast to the old, are secured equally and ratably regardless of issue or purpose by a pledge of the net revenues of all the projects operated by the Authority.

A new type of authority bond supported by an unconditional municipal guarantee appeared in the \$31,526,000 New York City Housing Authority issue of 1951-1988. This issue was secured jointly by the earnings of the housing project and the unconditional guarantee of New York City. The New York City Housing Authority and New York City were committed to three contractual pledges, which, although not uncommon to bond indentures, were never before embodied in a public housing bond not supported by cash subsidies: (a) the Authority must charge rentals sufficient to meet debt service charges; (b) the Authority, within thirty days of the sale, must capitalize from its proceeds a sum sufficient to pay one year's debt service and place such sum in a special reserve fund; and (c) if the Authority has to withdraw funds from the special reserve fund, the city is required to pay to the Authority an amount equal to the amount withdrawn.

Net debt. Analysis of municipal debt involves consideration of gross and net debt. The gross debt of a municipality represents

all obligations issued by it and includes floating debt and bonded debt. The floating debt represents tax anticipation notes issued for temporary financing. For example, the City of New York allotted \$50,000,000 of tax anticipation notes to twenty-six local banks on September 10th of a recent year. The temporary borrowing was divided into two issues. One issue of \$25,000,000 matured the following October 8th and the other, of \$25,000,000, was due October 15th. The notes carried an annual rate of 0.75 per cent.

The amount of floating debt usually depends upon the manner in which taxes are collected. In some states, taxes are collected once a year, which means that the municipality must operate for about ten months of the year on borrowed money. This results in a large amount of tax anticipation borrowing which is paid off as taxes are collected. In other states, taxes are collected quarterly which obviates the necessity of large tax anticipation borrowing since funds are received frequently enough to enable the municipality to operate on a current basis.

The bonded debt includes bonds which are sustained by self-supporting projects and bonds which are direct obligations of the municipality. Bonds which are sustained by self-supporting projects are not a burden on general taxes. By the same token, to the extent that a sinking fund has been built up on a direct obligation, the tax burden is reduced. The real burden upon the tax revenues is the net debt, which is calculated as the gross debt less self-supporting debt and sinking funds on the direct debt. For example, the city of Baltimore, Maryland, with a total debt of \$168,896,000, which included \$56,982,562 of self-supporting bonds, had a direct debt of \$111,913,438. Inasmuch, however, as the city had a sinking fund of \$29,745,003 for the direct debt, the net direct debt of the city was \$82,168,435.

Debt limit. In most states the borrowing capacity of municipalities is restricted by a net debt limit. This net debt limit is usually expressed as a maximum percentage of the assessed valuation of the taxable property in the municipality. The limits range from 2 per cent in Kentucky to 20 per cent in Florida.⁴ The net debt-incurring power of New York City, for instance, is limited to 10 per cent of a five-year average of total assessed value of taxable real estate.

⁴ Municipalities have avoided debt-limit restrictions by raising the rate of assessment, by creating tax districts, or by issuing revenue bonds either directly or indirectly through the creation of statutory authorities.

The debt-incurring power of New York City on a recent date was as follows:⁵

| | |
|--|-----------------|
| Total debt-incurring power..... | \$1,738,796,952 |
| Gross funded debt | 3,139,894,614 |
| Exempt funded debt..... | 1,266,859,653 |
| Housing bonds..... | 6,505,000 |
| Non-exempt funded debt | 1,866,529,961 |
| Net sinking fund and debt service on non-exempt debt..... | 561,483,525 |
| Funded debt within limit..... | 1,305,046,436 |
| Net land and contract liabilities. | 199,064,074 |
| Total debt within limit..... | 1,504,110,510 |
| Remaining power within limit | 234,686,442 |
| Reservations and authorizations..... | 219,533,465 |
| Unreserved margin | \$ 15,152,977 |

The total debt-incurring power of \$1,738,796,952 represented 10 per cent of the five-year average of assessed value of taxable real estate. The city's gross funded debt of \$3,139,894,614 included exempt funded debt of \$1,266,859,653 and housing bonds of \$6,505,000. The exempt funded debt consisted of the following:

| | |
|--------------------------|------------------------|
| Water supply bonds | \$ 621,183,173 |
| Dock bonds..... | 60,412,000 |
| Rapid transit bonds.... | 584,214,480 |
| Hospital bonds..... | 1,050,000 |
| | <u>\$1,266,859,653</u> |

The non-exempt funded debt of \$1,866,529,961 less the net sinking funds and debt service on the non-exempt debt of \$561,483,525 left a funded debt within the debt limit of \$1,305,046,436. A net land and contract liability of \$199,064,074 increased the total debt within the debt limit to \$1,504,110,510. The remaining legal debt-incurring power of \$234,686,442 was further reduced by reservations and authorized debt of \$219,533,465, leaving an unreserved margin of \$15,152,977.

Analysis of municipal bonds. The analysis of municipal bonds involves consideration of three factors: capacity to pay, willingness to pay, and legality of issue.

Capacity to pay. The capacity of a municipality to pay its obligations rests upon its taxing power. The chief sources of tax revenues are real property, personal property, and franchises. The total real property in a municipality includes taxable property and non-taxable private and public property. For example, approxi-

⁵ Report of the Comptroller, City of New York.

mately 70 per cent of the total real property in New York City is taxable and 30 per cent non-taxable. The non-taxable property consists of property owned by the city itself, by the federal government, by New York State, and by religious, educational, and other tax-exempt organizations. Obviously the basic source of tax revenue is the taxable property.

In many municipalities personal property also is taxable. The city of Baltimore, Maryland, for instance, reported that approximately 30 per cent of the reported assessed valuation represented the assessed valuation of personal property. As a rule, however, tax officials usually face the practical problem of appraising such property, with the result that payment on it is easily evaded.

Franchise valuations refer to that part of the property of public utility companies which is located on public property and is usually calculated on the basis of both the tangible property employed and the intangible right to occupy the public property. Commonwealth Edison of Chicago's annual tax is 4 per cent of gross revenues.

Ratio analysis. The capacity of a municipality to meet its obligations is usually measured by two ratios: net debt percentage and net debt per capita.

Net debt percentage. The net debt percentage expresses the relationship between the net debt, which must be supported by taxes, and the assessed valuation of taxable property, which is the chief source of the tax revenues. For example, a city with a net debt of \$82,168,435 and assessed valuation of \$1,664,037,410 has a net debt percentage of 4.9 per cent.

Net debt per capita. The net debt per capita expresses the relationship between the net debt and the population and indicates the amount of net debt per person. A city with a net debt of \$2,447,741,314 and a population of 7,454,995 has a net debt per capita of \$328.35. Proper interpretation of this ratio, however, requires consideration of assessed valuation per capita and tax revenues per capita. A high net debt per capita is no great cause for concern if accompanied by a correspondingly high assessed valuation per capita and high tax revenues per capita.

Limitations. The analysis of the capacity of a municipality to meet its obligations must take into consideration several limiting factors: tax rate limitation, overlapping tax districts, rate of assessment, and the tax rate.

Tax-rate limitation. Although fundamentally the assessed valuation represents the property value subject to taxation for the support of the credit of the municipality, many states place a limit on the tax rate by specifying a maximum rate. For example, Alabama, Arkansas, Indiana, Michigan, Nevada, Ohio, Pennsylvania, Texas, Washington, and West Virginia have tax limit legislation of one kind or another.

The tax rate limitation imposed by the state upon municipalities may include or exclude the debt service. The tax rate limitation in Michigan, Arkansas, and Nevada, for example, includes the debt service. On the other hand, some states, such as New York and Indiana, exempt the debt service from the tax rate limitation. In those instances the tax limitation applies to operating expenses but does not apply to the debt service. Although many municipalities in New York, for example, are limited to a total tax rate of 2 per cent (\$20 per \$1,000), against real estate to meet operating expenses, the limitation does not apply to the debt service.

Obviously tax-rate limitation, which includes debt service, adversely affects the credit position of the municipality. The extent to which such a limitation may affect the position of municipal bonds was illustrated by the experience of the city of Richmond, Virginia. When the proposal to create a greater Richmond was made, one difficulty encountered was the disparity between the tax rates of the city proper and of the suburban territory to be annexed to the city. To appease the voters of the suburban area, it was agreed that the tax rate in the annexed area would not be increased for five years. Under those circumstances Richmond could not sell an unlimited tax obligation. The lack of unlimited taxing power cost the city about one quarter of 1 per cent on an issue offered subsequent to the consolidation. The restriction of a tax-rate limit also tends to encourage municipalities to finance their needs either by revenue bonds or by tax district bonds, neither of which are directly part of the tax load, or by the over-assessment of property. On the other hand, bonds issued by municipalities where there is no tax-rate limitation or where the tax-rate limit does not include debt service are commonly known as unlimited tax bonds. Usually they enjoy a better investment rating than limited tax bonds.

Overlapping tax districts. The determination of the debt which rests upon the assessed valuation involves consideration of overlapping, underlying, and coterminous tax districts. Debts of the larger geographic areas are usually referred to as overlapping, those

of the smaller units as underlying, and those of units with the same boundaries as coterminous. For example, the city of Albany, New York, reported a net debt of \$14,630,429, assessed valuation of \$240,160,139, and a population of 130,577. On this basis the city had a net debt percentage of 6.0 per cent and a net debt per capita of \$112.04. This statement, however, did not give recognition to the fact that the actual debt burden upon the assessed valuation of Albany also includes that city's share of the debt of the Albany Port District.

The Albany Port District is coextensive with the cities of Albany and of Rensselaer, located on opposite sides of the Hudson River. Bonds issued by the District, which amounted to \$6,475,000, are payable from unlimited ad valorem taxes levied on all taxable property in the cities of Albany and Rensselaer. Taxes are apportioned on the basis of 87.89 per cent for Albany and 12.11 per cent for Rensselaer, with the result that Albany is liable for \$5,690,878 ($\$6,475,000 \times 87.89$ per cent) of the District bonds. The total net debt resting upon the assessed valuation of Albany is \$20,321,307 rather than \$14,630,429. On this basis the city of Albany has a net debt percentage of 8.7 per cent, which entails a per capita debt of \$155.62.⁶

Rate of assessment. The rates at which property is assessed for tax purposes vary widely throughout the country, ranging from 100 per cent to 37 per cent. The average rate also may change from year to year. For that reason a comparison of the net debt percentage of one community over a period of years or of one community with another involves consideration of the rate of assessment. Obviously a net debt percentage of 3 per cent for city A does not reflect a lower debt burden than 5 per cent for city B if the former employs a rate of assessment of 80 per cent compared with 40 per cent for the latter. On a 100 per cent basis, the assessed valuation is \$500,000,000 in each instance and the net debt percentage is 2.4 per cent in city A and 2.0 per cent in city B.

Tax rate. By the same token, a comparison of the tax rate prevailing in two municipalities must be judged in the light of overlapping tax districts and rates of assessment. For example, the city of Oakland, California, reported a tax rate of \$52.40 per \$1,000 of assessed valuation compared to \$51.93 for Los Angeles. These respective rates included taxes for tax districts as follows:

⁶ In addition, consideration must be given also to the city's share of the debt of Albany County.

| | <i>Oakland</i> | <i>Los Angeles</i> |
|------------------|----------------|--------------------|
| County.. | \$11.90 | \$11.91 |
| City. | 21.90 | 17.12 |
| School..... | 16.00 | 16.10 |
| Water..... | 2.00 | 4.80 |
| Others..... | .60 | 2.00 |
| | <u>\$52.40</u> | <u>\$51.93</u> |

The rate of assessment in Oakland, however, was 35 per cent compared with 50 per cent in Los Angeles. On the basis of a 100 per cent rate of assessment, the tax rate for Oakland was \$18.34, compared to \$25.97 for Los Angeles.

Willingness to pay. A municipality, unlike a state, is a corporation and as such can be sued if in default on its obligations. The usual procedure open to holders of municipal bonds in default is to obtain a court writ of mandamus which requires the municipal authorities to levy and collect sufficient additional taxes to meet the claim. For example, writs of mandamus were issued by the courts in 1937 against the city of Coral Gables, Florida, directing the city officials to make provision in the 1937-1938 budget for a six-year levy on four judgments totaling \$171,356. Under the Municipal Bankruptcy Act, however, a municipality may file a petition stating that it is insolvent or unable to meet its debts as they mature and that it desires to effect a plan for the composition of its debts.

Willingness of a municipality to meet its obligations is largely a matter of ability and good faith, the former being measured in terms of capacity and the latter in terms of its financial history. Inability to pay has been too commonly pleaded as a reason for default when, in fact, the main reason has been unwillingness to levy higher tax rates. Some municipalities have attributed inadequacy of tax revenues and inability to increase tax rates to tax-limit legislation. In any event, however, the real reason generally has been unwillingness. For this reason the tax collection record must be considered as a measure of inability. A poor collection record is generally indicative of either inadequate collection machinery, unaggressive collection policy, insufficient local income to support the present scale of governmental expenditures, or the presence of a large amount of unproductive real estate.

Tax delinquencies present a problem to municipal administrators. If installment payments are accepted and liberal abatements of penalties allowed, taxpayers are encouraged to take advantage of

the liberal terms granted delinquents.⁷ Experience has shown that in years of business decline collections fall off, whereas in years of business recovery collections improve as back taxes are liquidated. The percentage of current taxes collected in New York City has averaged better than 90 per cent compared to approximately 80 per cent in Chicago.

In some jurisdictions there is a priority of claim against tax collections as between local taxing units. In New Jersey, for example, the taxes for both the county and the city are collected by the city, but the county has a prior claim against the taxes collected. Inasmuch as the city must turn over to the county the latter's full share of the taxes collected, the delinquency, if any, applies to the city's share. From the standpoint of tax collections, therefore, the county is in a better position than the city. On the other hand, in Nassau County, New York, the county collects the taxes and remits in full to school and special districts and to towns. The county, by law, bears the cost of tax delinquency for towns, school and special districts, and itself.

Legality of issue. Equally important is the legality of the issue. While bondholders may sue a municipality to compel payment, a bond which has been illegally issued is invalid and uncollectible.

Caveat emptor. Under the principle of "caveat emptor," which means "let the buyer beware," buyers of illegally issued bonds, which therefore are not valid obligations, may not plead ignorance or innocence. This principle is based on the fact that all negotiations involving the issue are open to public inspection and the laws governing the issue are a matter of public record. Investors buy at their own risk and may not plead ignorance of any defect should illegality later be established.⁸

The procedure for the issuance of a municipal bond is prescribed by law. The violation or omission of any required provision in the procedure may be the basis of illegality. The most common specific causes of illegality have been: (a) inadequate authority under the municipal charter to issue the bonds; (b) issuance of the bonds for an unauthorized purpose; (c) violation or omission of any of the details prescribed in the procedure; or (d) issuance of bonds in ex-

⁷ In South Carolina the tax lien of the county is valid for ten years but only for three years for cities and towns.

⁸ Although in some instances the courts have held some municipal bonds with minor technical defects as valid obligations, the doctrine of "caveat emptor" is generally applied.

cess of the constitutional or statutory debt limit. In one instance, after bids had been received by a municipality and the bonds awarded, it was discovered that the maturities as set up in the issue did not conform with the requirements of the law under which they were authorized. The deposit check had to be returned, the terms of the issue revised, and the bonds readvertised for sale.

Legal opinion. For this reason the investor must rely upon the legal opinion which is the written opinion of a firm of recognized municipal bond attorneys that the bonds have been issued legally. The opinion usually states specifically that: (a) the bonds have been issued in accordance with constitutional legislation; (b) statutory authority was obtained; (c) the debt limit, if any, of the municipality will not be exceeded as a result of the issue; and (d) the statutory requirements for proper procedure have been carefully followed. To facilitate the sale of the bonds to investors after the bonds have been awarded, a number of states require cities to include in the instrument a validation clause which constitutes a predetermination of all points which might be the basis of litigation. As a result, the doctrine of estoppel prohibits the municipality from advancing any claim of illegality at a later date. It is significant, however, that such validation is not in effect in all states.

The advertisement inviting bids on the issue usually states that the successful bidder will be furnished with a copy of the legal opinion which usually accompanies the delivery of the bonds. For example, the prospectus accompanying the offering of \$4,200,000 of bonds by the city of Baltimore, Maryland, stated:

These bonds, issued for Voting Machine, Public Buildings, Public Library and Water purposes, in the opinion of counsel, constitute valid and legally binding obligations of the City of Baltimore, Maryland, and said City of Baltimore has power and is obligated to levy ad valorem taxes for the payment of said bonds and the interest thereon upon all real property within said City subject to taxation by said City, without limitation of rate or amount. Legality approved by Messrs. Wood, Hoffman, King and Dawson, New York City.

Usually the account manager for the municipal issue prepares certified copies of the original legal opinion at the time the bonds are taken up for delivery. Certified copies accompany each block of bonds taken down by members of the group, and a legal opinion accompanies each delivery of the bonds to the purchasers.

Market for municipal bonds. Municipal bonds are traded over-the-counter through dealers who specialize in this field. Dealers usually buy municipal bonds offered for sale by investors and carry them as inventory until they can place them with other investors.

The risk of wide price fluctuations adversely affecting this inventory is limited, however, since municipal issues are less subject than are corporate issues to daily economic, financial or political developments. Dealers offer the securities to investors, institutional or otherwise, through salesmen and printed lists.

The full-lot unit of trading is \$10,000 par value. This figure arises out of two features of municipal bonds: (a) most issues are of small or medium size and (b) the larger issues are commonly serial bonds. Each issue usually finances a specific improvement for which a relatively small amount of money is needed. On the other hand, the widespread use of serial bonds for large improvements has resulted in each maturity constituting a separate issue for trading purposes. For example, New York City sold \$75,000,000 of bonds which for purposes of illustration may be referred to as series A, B, C, D, E, and F. Series A bonds for \$14,700,000 were issued to finance the construction of an airport and were payable in twenty-nine annual installments. Series B, issued for various municipal purposes, amounted to \$860,000 and were payable in four equal annual installments. Series C bonds for \$7,290,000 consisted of \$6,300,000 for various municipal purposes, \$810,000 for construction of schools, and \$180,000 for dock improvements. They were payable in nine equal annual installments. Series D for \$11,750,000 included \$4,250,000 for various municipal purposes and \$7,500,000 for construction of schools and were payable in twenty-five equal annual installments. Series E for \$9,000,000 were issued to finance construction of rapid transit railroads and were payable in thirty equal annual installments. Series F for \$31,400,000 consisted of \$7,000,000 for construction of rapid transit railroads and \$24,400,000 for water supply. They were payable in forty equal annual installments. The serial maturities consisted of \$8,150,000 maturing 1946-1954, \$35,450,000 maturing 1946-1975, and \$31,400,000 maturing 1946-1985.

The market for municipal bonds is largely institutional in that the principal buyers are usually insurance companies, banks, and trustees, each of which are interested primarily in safety. Municipal bonds also appeal to wealthy investors to whom the tax exempt features of the bonds are important.

Tax position. Municipal bonds are exempt from all federal income taxes.⁹ The tax-exemption feature also applies to authority bonds. The United States Tax Court and the Circuit Court of

⁹ Pollack v. Farmers' Loan & Trust Co., 157 W.S. 429, 584 (1895).

Appeals, in a case involving the bonds of the Port of New York Authority and the Triborough Bridge and Tunnel Authority, both of New York, held that income from the bonds is exempt from federal taxes under the terms of the various revenue acts of Congress which declare that there shall be no taxation of the income of the obligations of a state or a political subdivision thereof. This decision was upheld by the United States Supreme Court, which denied a petition for review of the lower court's decision.

Distribution. The wide distribution of a municipal issue is not considered as essential or important as it is in the instance of a corporate issue. For this reason an issue is sometimes placed with relatively few investors, and, in some instances, with a single investor. Municipal bonds as a class are regarded as high-grade investments, but many issues of relatively inferior grades are also on the market. Municipal bonds as a class, however, are purchased for investment, that is, for a regular income rather than for speculation through price appreciation. As a result, the element of speculative trading is at a minimum.

Review Questions

1. Indicate the nature of a municipal corporation.
2. Name the three types of agencies issuing municipal bonds.
3. Explain the purposes for which municipalities borrow.
4. Indicate the constitutional limitations upon the maturity of municipal bonds.
5. Distinguish between general and limited municipal obligations.
6. Describe special-assessment bonds.
7. Distinguish between "general-special" and "special-special" assessment bonds.
8. Describe municipal revenue bonds.
9. Account for the increased use of revenue bonds.
10. Discuss the investment position of revenue bonds.
11. Explain the function of a tax district.
12. Discuss the investment position of tax district bonds.
13. Explain the nature of an "authority."
14. Discuss the investment position of authority bonds.
15. Distinguish between the gross debt and the net debt of a municipality.
16. Discuss the significance of a legal net debt limit.
17. Explain the methods by which municipalities evade debt limit restrictions.
18. Name the three factors in the analysis of municipal credit.
19. Indicate the basis of a municipality's capacity to pay.
20. Explain the calculation of and the significance of net debt percentage and net debt per capita.

21. Name the limiting factors in the analysis of capacity to pay.
22. Discuss the basis of a municipality's willingness to pay.
23. Indicate the relation between the tax collection record and willingness to pay.
24. Describe the procedure open to holders of municipal bonds in default.
25. Explain the meaning of the principle of "caveat emptor"
26. Name the common bases upon which a municipal issue may be declared to have been illegally issued.
27. Discuss the significance of the legal opinion accompanying the delivery of a municipal bond.
28. Explain the distinction between the two following over-the-counter quotations on New York City bonds:

| | <i>Bid</i> | <i>Asked</i> |
|-----------------------------|------------|--------------|
| 3½s, Nov. 1954 | 118½ | 119½ |
| 3½s, Nov. 1950-54 | 1.20% | 0.75% |

29. Name two features of municipal issues.
30. Indicate the usual unit of trading.
31. Indicate the tax position of municipal bonds.
32. Describe the market for municipal bonds.

Assignment

- (a) Using a 100 per cent basis, compute and compare the net debt percentage and the tax rate of the following cities:

| | <i>City A</i> | <i>City B</i> |
|--|-----------------|-----------------|
| Assessed valuation. | \$4,000,000,000 | \$6,400,000,000 |
| Rate of assessment. | 50% | 80% |
| Gross debt. | \$200,000,000 | \$300,000,000 |
| Sinking funds. | 30,000,000 | 20,000,000 |
| Revenue bonds | 50,000,000 | 40,000,000 |
| Tax rate per \$100 of assessed valuation | \$4.60 | \$3.20 |

CHAPTER THIRTEEN

CORPORATE FINANCIAL STATEMENTS

Fields of analysis. Corporate securities available for investment may be classified broadly according to the nature of the industry, as securities of railroads, public utilities, and industrial companies, and of financial institutions. Railroad companies are engaged in the transportation of freight, passenger, and other kinds of traffic. The public utility companies provide electric light and power, gas, telephone service, telegraph service, water, bus, and street railway service. The service rendered by them is (a) affected with a public interest, (b) provided under a franchise contract, and (c) subject to governmental regulation. Railroads also are considered a public utility in a broad sense, but certain characteristics inherent in the nature of the operation of railroad companies, such as magnitude and area, place their securities in a separate investment category.

Industrial companies, on the other hand, are engaged in a wide range of activities that may be conveniently classed as extractive, productive, and distributive. Companies engaged in the extractive industries operate mines, oil wells, timber lands, fisheries, and so forth. Those in the productive industries produce a wide variety of manufactured articles. Companies in the distributive industries merchandise products at wholesale or retail, direct to consumers or by mail.

Financial institutions include commercial banks and insurance companies. Commercial banks usually combine commercial banking and trust activities. Insurance companies underwrite life insurance or fire and casualty insurance. Investment interest in the large life insurance companies is limited, however, because of the prevalence of the mutual form of organization. The more important casualty companies, on the other hand, are stock companies.

Regulation. The quasi-public nature of the activities of railroads, public utilities, banks, and insurance companies has made

them subject to regulation by the federal government and by states. Railroad and public utility companies engaged in interstate commerce, public utility holding companies subject to the Public Utility Holding Company Act of 1935, and commercial banks that are members of the Federal Reserve System, are subject to federal regulation.

Railroads engaged in interstate commerce are regulated by the Interstate Commerce Commission. The regulatory powers of the Commission have been widened considerably since its creation in 1887, and many of them directly affect the investment position of railroad securities.

Public utility, electric, and gas holding companies were brought under federal regulation by the Public Utility Act of 1935. A holding company is defined by the Act as "any company which directly or indirectly owns, controls, or holds with power to vote, 10 per centum or more of the outstanding voting securities of a public utility company." All such holding companies must be registered with the Securities and Exchange Commission. In general, the Act provides for (a) the integration of properties controlled by holding companies and (b) the simplification of the capital structures of holding companies. Under the integration provision, sometimes referred to as the "death sentence clause," continued existence is accorded only to those holding companies which can justify their economic existence. The simplification of capital structures provision was aimed at holding companies with complicated capital structures involving a complex group of intermediate holding companies.

Railroad and public utility operations in purely intrastate commerce, as well as state commercial banks and insurance companies, are under the jurisdiction of the respective states. All the states except Delaware and the District of Columbia have regulatory bodies with jurisdiction over some of the utilities. The constitution and the laws of each state define more or less specifically the powers and duties of the commission. There is a great variation, however, in the extent of the jurisdiction in the respective states. A 1944 decision of the United States Supreme Court (*U. S. v. South-Eastern Underwriters Association*) held that the business of insurance was commerce and that when conducted across state lines it was interstate commerce and, therefore, subject to the Sherman Anti-trust Act and related federal laws. Under the McCarran Act, however, the Sherman Act, the Clayton Act, and the Federal Trade

Commission Act are applicable to the business of insurance only "to the extent that such business is not regulated by State law." Industrial companies, on the other hand, are not subject to regulation by any specific public body.

Railroads. Most of the railroad systems in the United States are engaged in interstate commerce and operate over extensive territory. For example, the Atchison, Topeka & Santa Fe Railway, which is one of the largest of the western trunk lines, operates 13,147 miles extending west from Chicago to Los Angeles and San Francisco. The Atlantic Coast Line Railroad extends from Richmond, Virginia, to points in the lower Florida peninsula, forming a through line with a network of branches radiating throughout North Carolina, South Carolina, Georgia, Alabama, and Florida.

Railroads engaged in interstate commerce are subject to extensive regulation by the Interstate Commerce Commission. The Interstate Commerce Commission classifies operating line-haul railroads for statistical purposes, on the basis of their annual operating revenues, as Class I (annual operating revenues of over \$3,000,000), Class II (below \$3,000,000), effective January 1, 1956. Since the Class I railroads operate approximately 97 per cent of total operating revenues, their data are taken as representative of the railroad industry. The phases of this regulation which are of especial interest to the investor concern freight rates, new security issues, and reports.¹

Freight rates. The Transportation Act of 1920 provided for the establishment of freight and passenger rates which would permit the railroads to earn a fair return upon a fair valuation of their property. This provision, however, was discarded by the Emergency Railroad Transportation Act of 1933, under which the Commission was directed to fix individual freight rates that are just and reasonable, but to give due consideration to "the effect of rates on the movement to traffic; to the need, in the public interest, of adequate and efficient railway transportation service . . .; and to the need of revenues sufficient to enable the carriers, under honest, economical, and efficient management, to provide such service."

New security issues. Railroads may not issue new securities without the approval of the Interstate Commerce Commission.

¹ In addition, new railroad mileage may be constructed and existing mileage abandoned only with the approval of the Commission. The permission of the Commission also is necessary for the consolidation of two roads.

Such approval, when given, is based upon careful investigation of the purpose of the issue, the amount required, the nature of the security, and the cost of distribution.

Reports. The Interstate Commerce Commission also has power to prescribe the accounting methods employed by the railroads. The Commission has established a uniform classification of accounts known as the "classification of Income, Profit and Loss, and General Balance Sheet Accounts for Steam Railroads." This general classification has been supplemented by a "Classification of Operating Revenues and Operating Expenses" and a "Classification of Investment in Road and Equipment."

Public utilities. Investors in public utility securities may purchase the issues of a holding company or of an operating company. A holding company exercises statutory control over one or more operating companies by direct or indirect ownership of securities. The assets of a holding company consist principally of the securities of operating companies, and its income is derived from dividends or interest on the securities owned. An operating company, on the other hand, owns physical production and distribution properties and derives its income from the sale of electricity, gas, or other services.

A public utility operating company engaged in intrastate commerce is subject to regulation by the state public service commission having jurisdiction. The commission usually has only such powers or functions as have been conferred upon it by the state constitution or by legislative enactment. A company may be subject, however, to the concurrent regulation of several commissions. In the instance of the Montana Power Company, for example, the Montana Public Service Commission regulates the rates for all power sold by the company to its customers in Montana, the Federal Power Commission regulates the rates for the sale at wholesale of power in interstate commerce, and the Idaho Commission regulates rates charged to customers in Idaho.

Franchises. Public utility operating companies operate under a franchise. In order to begin operations a public utility company must obtain (a) a certificate of convenience and necessity, which is a revocable permit usually issued by the regulatory commission, and (b) a franchise, which is issued by the state or the municipality. Although the right to regulate utilities is a state right, in some cases the state has delegated this right to the municipality. Southern

California Edison Company, for instance, operates under many franchises, some of which were granted by the State of California, some by municipalities, and some by counties.

A franchise is a contract between the company and the public authority and states the terms under which the company is authorized to operate. The utility gains the right to use the public property which is necessary for its operations and agrees to provide and maintain the service in accordance with the terms of the franchise. The franchise specifies, among other things, the term for which the franchise is granted, the conditions under which the company may operate, and the territory which the company is authorized to serve.

Term. The duration of the franchise may be perpetual, limited, or indeterminate. Originally franchises were granted on a perpetual basis. Several of the companies constituting the Consolidated Edison Company of New York, for example, have perpetual franchises. The perpetual franchise gives to the utility the assurance of the right to engage in business permanently with a minimum of government regulation. On the other hand, however, it means that the city has contracted away its right to control effectively the activities of the utility and that the hands of the regulatory body are tied in its future negotiations with the company. A perpetual franchise usually can be terminated only through condemnation under the public authority's power of eminent domain.

Subsequently, public sentiment led to the practice of granting franchises the duration of which were limited to a specific period, ranging from ten to fifty years. The West Texas Utilities Company, for example, has had one franchise for a thirty-year term and thirty-five franchises for fifty-year terms. The Commonwealth Edison's fifty-year franchise to do business in the City of Chicago expired September 17, 1947. Pending the renewal of the franchise, the company operated under a temporary franchise. In 1948 the company received a new franchise extending to December 31, 1990. The limited franchise was a recognition of the need for periodic readjustment of the relations between the public authority and the company in view of changing technological and economic conditions. The limited franchise, however, is undesirable from the standpoint of the investor. This is especially true as the expiration date of the franchise approaches. The necessarily large investment in fixed properties is immobile and offers little scrap value. Under these conditions the company is in an exceedingly poor bargaining position and, in practice, is forced to accept what-

ever terms are offered by the public authority as a basis for renewal of the franchise.

In recent years, however, the indeterminate type of franchise has grown in popularity. Under this type the franchise remains in effect so long as it is mutually satisfactory to the public authority and the company. It usually provides that the public authority may terminate the franchise in the event of unsatisfactory service on the part of the company or if the public authority decides to take over and operate the service. The terms under which the public authority may take over the properties are usually stated in the franchise. This is the most desirable type of franchise from the standpoint of the investor.

A typically large public utility company may commonly represent a consolidation of several individual companies each of which operates under a separate franchise, serves a local community, and provides a special type of service. For example, Arkansas Power & Light Company, which is engaged principally in the generation and purchase of electric energy and its distribution and sale, operates in 446 communities in Arkansas and serves a very substantial portion of the state. Its territory includes the cities of Little Rock, Pine Bluff, El Dorado, Hot Springs, and North Little Rock. The company also provides natural gas service in 18 communities, water service in 21, and ice in 56 communities. In addition, the company provides steam heating service in Little Rock. The company holds franchises from each of the communities which it serves, but those franchises are of varying durations. The franchise issued by Little Rock is perpetual. Those issued by Malvern, Pine Bluff, and El Dorado were limited in duration, the first expiring in 1950, the second in 1951, and the third in 1965. Under the state law, however, all limited franchises become indeterminate upon expiration. On the other hand, those issued by Camden and Russellville are indeterminate.

Operating conditions. Public utility franchises may be competitive or exclusive. Under a competitive franchise, the company is simply given the privilege of providing the service. The public authority reserves the right to grant franchises to other companies or to establish its own service. In the city of Cleveland, Ohio, for example, the Cleveland Electric Illuminating Company operates in competition with a municipal plant. The Southwestern Public Service Company competes with municipal power plants in three municipalities in Texas.

The exclusive type of franchise, on the other hand, gives the company the sole right to provide the service in the community. An exclusive franchise, however, does not necessarily assure the company against unfavorable developments. A company with an exclusive franchise to provide gas, for example, may be adversely affected by the increased use of fuel oil for heating purposes or electricity for cooking, especially if the alternative service is provided at a lower cost than gas. In other instances, the growing popularity of other means of transportation has considerably lessened the profitable operation of street railway companies in spite of exclusive franchises. Fundamentally, the fact that a franchise is exclusive is not protection against a decline in earnings should alternative services be developed or the territory served suffer a decline in economic importance.

Territory served. Public utility operating companies serve a distinctly local market. The franchise states the territory within which the company may operate. In some cases this territorial restriction has prevented an operating company from extending its service to rapidly growing contiguous territory. For example, the franchise of the Commonwealth Edison Company limits its service to the corporate boundaries of the city of Chicago. As a result, the company serves the east side of Austin Boulevard, which is the municipal boundary line, but cannot serve the west side of the street, which is in Oak Park, a separate municipality.

New security issues. Public utility companies may not issue new securities without the approval of the regulatory body having jurisdiction. Under the Public Utility Holding Company Act of 1935, companies owning or controlling 10 per cent or more of the voting securities of an electric or gas utility company or exercising a controlling influence over the management or policies of such a company must file a declaration with the Securities and Exchange Commission with respect to any proposed issue of securities. The declaration becomes effective unless the Commission finds that the security issue fails to meet the standards set forth by the Act for determining the financial structure of a company and the nature of the securities which may make up that structure. In like manner, public utility operating companies must obtain the approval of the state public service commission. In New York State, as in most states, securities may be issued only to construct new property, buy existing property, better existing property, or refund existing debt. In addition, the amount must be reasonable for the

purpose, the form (bonds or stock) in harmony with a balanced capitalization, and the cost of distribution reasonable.

Although the approval of a new security issue by the regulatory body having jurisdiction does not constitute an investment recommendation, it does afford investors some degree of protection.

Rates. Public utility companies are restricted in the rates which they may charge for the services they provide. The United States Supreme Court in *Munn v. Illinois* declared:²

Private property does become clothed with a public interest when used in a manner to make it of public consequence, and affect the community at large. When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants the public an interest in that use, and must submit to be controlled by the public for the common good, to the extent of the interest he has thus created.

Rates charged by public utility operating companies are subject to the terms of the franchise under which they operate or to regulation by the state public service commission.

The rate schedule in a public utility franchise may be fixed or flexible. The older type of franchise specified the maximum rate which the utility could charge for its service. In some instances rising costs of material and labor have made it impossible for companies with such rate restriction to earn a satisfactory return. Attempts by the companies to obtain relief from the courts under a claim of confiscation, however, generally have been ineffectual.

The more recent franchises provide for a flexible rate approved by the regulatory commission and based on the cost of the service. The dual purpose of regulation of public utility rates is (a) to protect the customer against unduly high rates and (b) to provide the company with a fair rate of return on the value of the property used in public service. One utility company stated this principle concisely as follows: "Public utility rates are fixed theoretically as close as possible to the point at which each customer will pay his proportionate share of the cost of the service rendered plus a reasonable return on the capital employed." The cost of rendering the service includes expenses of operation, depreciation and reserves, taxes, and interest on the investment. The problem with which the regulatory body is faced in the regulation of rates is to establish (a) the rate base, (b) a fair rate of return, and (c) a rate schedule.

Rate base. The rate base is the value of the company's property

²94 U. S. 113 (1876).

used and useful in the public service as determined by the regulatory body. It is the value upon which the utility is permitted to earn a return.³ The essence of the valuation problem was stated by Justice Brandeis in a minority opinion rendered in the Southwestern Bell Telephone Company case:⁴

The thing devoted by the investor to the public use is not specific property, tangible and intangible, but the capital embarked in the enterprise. Upon capital so invested the Federal Constitution guarantees to the utility the opportunity to earn a fair return.

Three principles have been advocated for the determination of utility property valuation: original cost, reproduction cost, and prudent investment. Original cost is based upon the value of the property, tangible and intangible, at the time of acquisition by the company. Original cost is defined as the cost of utility property to the one first devoting it to public service. Reproduction cost is based on the cost of duplicating the property used and useful in providing the service at the time the valuation is made. The advocacy of reproduction cost is based upon the premise that gradual replacement of plant must be made at current prices which, because of changing price levels, renders original cost inequitable. Prudent investment cost is based on a value which a wise and careful management would have given in exchange for the property. It seeks to eliminate inflated values. As Justice Brandeis stated in *Southwestern Bell Telephone Co. v. Public Service Commission*, "the term is applied for the purpose of excluding what might be found to be dishonest or obviously wasteful or imprudent expenditures."

The United States Supreme Court ruled in the *Federal Power Commission v. Natural Gas Pipeline Co.* case, that the Commission could use any one formula or a combination of formulae.⁵ This position of the court was confirmed in the *Hope Natural Gas Company* case.⁶ In recent years federal and state commissions have adopted original cost prudently invested as the basis of valuation.

The Uniform Systems of Accounts prescribed by the regulatory bodies have provided that the difference by which acquisition cost or book cost exceeds the original cost as determined must be included in a "Utility Plant Adjustment" account and depreciated, amortized, or otherwise disposed of in whole or in part as the regu-

³ The rate base does not necessarily coincide with the book cost of the property less depreciation.

⁴ 262 U. S. 276 (1923).

⁵ 315 U. S. 575 (1942).

⁶ 320 U. S. 591 (1944).

latory commission may approve or direct. Plant Acquisition Adjustment account contains the balances representing the cost to the utility company of property which it now owns but which is in excess of the cost of the asset when it was first devoted to public use. Companies subject to the jurisdiction of the Federal Power Commission, or to that of commissions which have taken their policy from the Federal Power Commission, have been ordered to amortize this account over a ten-to-fifteen year period by charges to "Miscellaneous Deductions from Gross Income." These commissions have taken the position that, although the amounts in this account represent good money spent, this portion of the investment cannot be recovered from the consumer but must be amortized out of the investors' return.

Rate of return. The rate of return is the rate which the utility is allowed to earn on its rate base. The United States Supreme Court held in *Dayton Goose Creek Railway Co. v. United States*, that "by investment in a business dedicated to the public service the owner must recognize that, as compared with investment in private business, he cannot expect either high or speculative dividends but that his obligation limits him to only fair or reasonable profit."⁷ The court has pointed out in *Federal Power Commission v. Hope Natural Gas Company*, however, that:⁸

"From the investor or company point of view it is important that there be enough revenue not only for operating expenses, but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital."

A fair return represents a return on capital employed (bonds, preferred stock, and common stock) in addition to all reasonable operating expenses, including annual depreciation and taxes. The amount of return is the product of the rate base and the rate of return. Thus valuation and rate of return are inseparably involved in arriving at fair return.

In the absence of any statutory restriction, each public utility commission is free to establish what it deems a fair rate of return to companies under its jurisdiction. In general, a fair rate of return is the rate which will attract the necessary capital for the development of a utility system. Both the regulatory commissions

⁷ 263 U. S. 481 (1924).

⁸ 320 U. S. 603 (1944).

and the courts are concerned with the rate of return. The former are charged by the legislatures with the responsibility of establishing rates which are reasonable to the consumers and to the utility. The latter must pass upon the constitutional question as to whether the rates established are so low as to result in confiscation of the utility's property. The generally allowed rate of return ranged between 7 and 8 per cent during the 1920s, between 6 and 7 per cent during the 1930s, and between 5½ and 6 per cent during the 1940s.

Rate schedule. The rate schedule refers to the specific schedule of individual rates which it is estimated will yield the required rate of return on the rate base. In some instances service rates are adjusted regularly in accordance with a predetermined schedule. New Jersey Power & Light Company has adopted its "New Jersey Plan" under which adjustments are made just prior to the year-end to bring results for the year into line with the allowable rate permitted by the state commission. This is done by consumer refunds or "Christmas checks."

A large number of electric utilities seek to protect themselves against abnormal advances in the cost of fuel by applying a schedule to industrial consumers which permits automatic adjustments in rates for current. The charge per kilowatt hour of electricity or 1,000 pounds of steam is adjusted as fuel prices rise above or fall below certain predetermined points. Under the fuel oil adjustment clause through which the Florida Power & Light Company, for example, passes along to consumers part of the rise in the cost of oil for its generating plants, rates are increased by an amount equal to the actual increase in fuel costs. The charge varies each month since it is based on the weighted cost of all of the fuel oil in the company's tanks. Approximately 10 per cent of the electric utilities have a fuel clause in their contracts with commercial customers. On the other hand, only a few companies, such as Consolidated Edison Company of New York, for example, have a fuel clause in their domestic rate schedules.

Reports. Public utility accounting procedure and reports are subject to regulation by the authority having jurisdiction. The Federal Power Commission was established in 1920 to exercise general administrative control over all water-power sites and kindred establishments located on the navigable waters, public lands, and reservations of the United States. Under Title II of the Public Utility Holding Company Act of 1935 it was also given extensive

jurisdiction over companies engaged in the interstate sale of power at wholesale. A uniform system of accounts requiring the determination of original cost of property became effective January 1, 1937. In 1938 the Commission was given jurisdiction over interstate transportation and sale of natural gas for resale for ultimate public consumption. This involved, among other things, the prescription of accounts, records, and cost accounting procedure. Companies brought under the jurisdiction of the Commission by the Act were not relieved, however, from the requirements of state laws. The Federal Communications Commission was established in 1934 and prescribes a uniform accounting system for the companies under its control: telephone, telegraph, and radio-telegraph. Under Title I of the Public Utility Holding Company Act of 1935 the Securities and Exchange Commission was given jurisdiction over the accounting system of registered holding companies and their subsidiaries.⁹

The accounting procedure and reports of public utility operating companies doing an intrastate business are subject to regulation by the state authority having jurisdiction. Standard classifications have been adopted by a large number of states. For example, a uniform classification of accounts has been adopted for electric companies in about thirty states and for gas companies in approximately twenty states. The state commissions also require the compilation and submission of exhaustive reports which, in most states, are submitted annually. The information in these reports forms the basis for the summary sent to the stockholders in the form of the annual report.

Industrial. Industrial companies differ from railroad and public utility companies in many respects. They are not restricted by any regulatory body as to the rates they may charge for their products, the amount or kind of securities they may issue, or the nature and content of their reports to stockholders. The absence of such regulation provides a high degree of freedom for the management, but at the same time it complicates the problem of the investor. The investment problem is complicated by such factors as (a) competitive conditions, (b) the nature of the industry, (c) the market served, (d) the character of the management, and (e) the accounting methods.

⁹ Some companies are subject to the jurisdiction of more than one federal commission. For example, as a registered holding company, Delaware Power & Light Company is subject to regulation by the Securities and Exchange Commission and its purchases and sales of interstate power bring it under the jurisdiction of the Federal Power Commission.

Competitive conditions. In general, industrial companies face highly competitive conditions. A company may be obliged to compete not only with other companies in the same industry but also with companies in other industries. Although competition in the automobile industry is found among General Motors, Chrysler, Ford, and the so-called independent companies, it is especially keen among the "Big Three." In addition, International Harvester Company, which is primarily a manufacturer of agricultural implements, is also the largest maker of motor trucks in the country.

Nature of industry. Industrial companies as a group are subject to wide fluctuations in earnings. The net income of United States Steel Corporation declined from a profit of \$197,500,000 in 1929 to a deficit of \$71,200,000 in 1932 and rose again to a profit of \$215,500,000 in 1950. Such fluctuations in industrial earnings are influenced in part by the nature of the product, the degree of integration of the company, and the inventory problem peculiar to the industry. A company whose product is a necessity, which is highly integrated, and which is not obliged to carry large inventories, is generally in a stronger position than one that produces a luxury item, or is poorly integrated, or must carry large inventories at all times. Products for which the demand is relatively stable generally suffer less percentage fluctuations in demand than those for which the demand is subject to considerable change. Integrated companies that control the product from raw material to the finished form, such as United States Steel Corporation, are in a much stronger position than those that must buy the principal raw material from one producer and sell the semi-finished product to another producer, such as American Woolen Company. Companies which are compelled to carry large inventories always face the danger of a decline in the market price of the inventory. The problem of large inventories is especially acute in industries where the inventory consists of perishable merchandise which cannot be withheld from the consumer market to await more favorable prices, such as the meatpacking industry.

Market served. The market served varies from one company to another. Some serve a distinctly local market whereas others serve a national or even an international market. Companies which serve an international market, such as Standard Oil Company of New Jersey, General Electric, American Radiator & Standard Sanitary, and International Harvester, are subject to world-wide

changes in economic and political conditions. Many large American companies incurred large losses as a result of the change in government in Russia in 1918.

Some companies concentrate on a limited number of products whereas others have continuously increased the scope of their activities through the manufacture of a more diversified list of products or by stockholdings in other companies in other industries. The policy of Coca-Cola Company in concentrating on one product is in contrast with that of General Motors, more than half of whose profits come from the sale of products other than motorcars, and Eastman Kodak, which has supplemented its photographic supplies business with activities in the textile field.

Management. The management factor is of unusual importance in the industrial field. Management in the industrial field is not only a matter of personnel but of policy. Efficient management has demonstrated its ability to make a successful company out of an otherwise unsuccessful company. The effect of good management was evidenced in the improvement during the 1920's in Corn Products Refining Company, General Motors Corporation, and Chrysler Corporation, under new and efficient management. More recently new management enabled Universal Pictures to transform a deficit of \$1,030,000 into a profit of \$51,500,000 within a period of seven years.

Accounting method. The problem of analysis is further complicated by the absence of uniformity in industrial operations and in accounting procedure. Each company adopts a system of its own. One company may charge certain expenditures as operating expenses whereas another company may capitalize such expenditures. One company may depreciate its assets more rapidly than another company in the same industry. One company may consider a charge as an operating expense whereas another company may treat the same kind of charge as a surplus adjustment.

Financial statements. The investor has a claim against or an interest in the issuer as evidenced by the ownership of a bond or a stock, respectively. The nature of the claim or of the interest is indicated by the indenture, in the instance of a bond, or the certificate of incorporation, in the instance of a stock. What is more important to the investor, however, is the value of his claim or interest. This depends primarily upon the financial strength of the issuer. A first mortgage bond of a financially weak company may

have considerably less value than that of a debenture bond or even the stock of a financially strong company. The financial strength of the issuer can be determined only by an analysis of its financial statements.

A corporate financial statement is a report to the stockholders by the board of directors and officers on the financial operations of the company for the fiscal period. The fiscal year corresponds with the calendar year in railroad and public utility companies, in commercial banks and insurance companies, and in many industrial companies. In some industrial companies, however, the fiscal year coincides not with the calendar year but with the business year peculiar to the industry. The extent to which this practice prevails is indicated by the following selected illustrations:

| <i>Company</i> | <i>Fiscal Year Ends</i> |
|-----------------------------------|-------------------------|
| May Department Stores. | January 31 |
| Dow Chemical. | May 31 |
| Nash-Kelvinator | September 30 |
| International Harvester | October 31 |
| Swift & Company. | October 26–November 1 |
| Endicott-Johnson. | November 30 |

Annual report. Although the size and detail of the annual report varies from one company to another, the usual report contains the following items: a balance sheet showing the financial condition of the company as of a specific date, usually the last day of the fiscal year; an income statement revealing the income and outgo of the company during the fiscal period covered by the statement; a statement of surplus; and a certification by an independent public accountant firm. In addition, many reports contain a narrative statement by the chairman or president explaining the more important aspects of the company's business during the year and descriptive, statistical, or pictorial matter concerning the company's properties and operations which the management considers of interest to the stockholders.

The contents of the annual reports of banks have undergone considerable changes in recent years. Formerly most bank reports to the stockholders contained only the balance sheet; now, however, many current reports also include a detailed statement of earnings and expenses. In addition, many annual reports now give the figures for the preceding year as a basis of comparison with the current year. Although the annual report issued by insurance companies to the stockholders is based upon a detailed report prepared in accordance with the regulations of and filed with

the state authority, it usually includes only a balance sheet and an income statement.

Interim reports. Some companies, such as American Sugar Refining Company, issue only an annual report. Other companies, however, also issue additional reports known as interim reports. Interim reports may be issued semi-annually, quarterly, monthly, or weekly. The most commonly issued interim report is issued quarterly. Monthly and weekly reports are issued by railroad, public utility, and some industrial companies. Railroad companies are required to issue monthly statements of earnings, both gross and net. Most of the larger railroads also issue weekly reports on the number of freight cars loaded. Many public utility companies report earnings monthly and, in the instance of electric power companies, also report weekly totals of their output in kilowatt-hours of electricity. A few industrial companies provide monthly earnings statements or even monthly balance sheets, but this practice is not yet widespread.

Analysis of financial statements. The factual information provided by the financial statements is of little value in itself. Its importance, however, lies in its use as a means of forming a judgment of the financial strength of the issuer and of the securities outstanding. Analysis should always precede investment.

The analysis of the financial statements of an issuer confronts the investor with the question: What is the meaning and significance of the figures presented? Basically the investor seeks to determine (a) the solvency or ability of the company to pay its debts as they come due and (b) the fundamental solidity or stability of the business. To accomplish this objective the investor must adopt an analytical approach and apply a critical analysis to the financial statements. Although a knowledge of accounting is basic, the approach of the investor is fundamentally different from that of the accountant. The latter is primarily interested in the completeness and technical accuracy of the figures presented. The investor, on the other hand, is interested in extracting from the statement information that will help him form a judgment upon a specific security issued by the company. The investor must examine the various items critically in order to produce an ultra-conservative statement. He does not seek necessarily to determine the full value of the security but rather to determine a safe minimum value upon which he may rely with some assurance. The basic purpose of the investor is to ascertain the value of the prop-

erty as a protective element. He faces the inescapable fact, however, that, since some balance-sheet figures are based on going value, they are commonly higher than liquidating value. While analysis is a search for evidences of weakness, it is also a search for indications of strength.

Ratio analysis. The relation of one part of the statement to another is usually expressed as a ratio. The underlying principle of ratio analysis is that the proportion or relation of one item to another is far more important than the amount of each item expressed as dollars. Ratios are of three kinds: balance sheet ratios, income statement ratios, and mixed ratios. A balance sheet ratio relates two balance sheet items. An income statement ratio relates two income statement items. A mixed ratio, on the other hand, relates a balance sheet item and an income statement item. Ratios are useful but not necessarily conclusive. The proper use of a ratio involves two considerations: (a) the purpose of the ratio and (b) the limitations inherent in the ratio. Every ratio has distinct limitations which, if ignored, may easily lead to false conclusions. Ratios are simply clues and require examination and confirmation. They should be an aid to, but not a substitute for, good judgment. In addition, the same factors may vary in importance from company to company. Analysis of working capital, for example, is far more important in an industrial company analysis than in the analysis of a railroad or public utility company. Maintenance as reported by a railroad company has a meaning and significance quite different from that reported by a public utility or an industrial company. Furthermore, there are often intangible elements which cannot be readily translated into mathematical figures. Lastly, since the price of a security is a most important factor, a fairly broad knowledge of many issues is necessary to provide a basis for determining relative values.

Analysis of financial statements is not an exact science. The mathematical computation of relationships by means of ratios is but one of the tools of the investor. Those relationships must be interpreted in the light of current and prospective conditions. The uncertainty of the future precludes the drawing of conclusions based on present information with any degree of immunity from change. The task of the investor is to determine the relative rather than the absolute degree of risk involved in the analysis of any security.

Review Questions

1. Classify corporate securities according to the nature of the industry.
2. Indicate the nature of railroad operation.
3. Explain the characteristics of a public utility company.
4. Indicate the range of activities of industrial companies
5. Name the kinds of companies referred to as financial institutions.
6. Discuss the investment interest in insurance companies.
7. Name the kinds of companies subject to government regulation and explain the reason.
8. Indicate the kinds of companies subject to federal and to state regulation, respectively.
9. Name the phases of federal regulation of railroads of especial interest to the investor.
10. Describe the conditions under which railroads may issue new securities.
11. Discuss Interstate Commerce Commission regulation of railroad reports.
12. Distinguish between a public utility holding company and an operating company.
13. Explain the significance of a public utility franchise.
14. Distinguish between a perpetual, a limited, and an indeterminate public utility franchise.
15. Distinguish between a competitive and an exclusive franchise.
16. Comment on the relative territory served by a railroad and a public utility operating company.
17. Discuss the conditions under which a public utility holding company and an operating company may issue new securities.
18. Discuss the investment significance of commission approval of a new security issue.
19. Explain the significance of the case of *Munn v. Illinois*.
20. Distinguish between a fixed and a flexible rate clause in a public utility franchise.
21. Explain the purpose of regulation of public utility rates.
22. Indicate the problem faced by regulatory commissions in the regulation of rates.
23. Define a utility rate base.
24. Explain the principles in the determination of utility property valuation.
25. Define a utility rate of return.
26. Define a utility rate schedule.
27. Explain the ways in which industrial companies differ from railroad and public utility companies.
28. Define a corporate financial statement.
29. Discuss the investment significance of the financial statements of a company.
30. What is meant by a company's fiscal year?
31. Indicate the items commonly found in a corporate annual report.
32. Explain the investment significance of interim reports.

33. Discuss the significance of the factual information in the financial statement.
34. Indicate the analytical problem of the investor.
35. Define a ratio.
36. Discuss the underlying principle of ratio analysis
37. Distinguish between balance sheet ratios, income statement ratios, and mixed ratios.
38. Indicate the consideration involved in the proper use of a ratio.
39. Discuss analysis as an exact science.

Assignment

- (a) Indicate whether the following companies are classed as railroad, public utility, industrial, or financial: Irving Trust, Consolidated Edison (N. Y.), Illinois Central, and International Business Machines.
- (b) Indicate the fiscal year of the following companies: Armour & Co., Sears Roebuck, American Tobacco, Continental Baking, and United Shoe Machinery.
- (c) Indicate which of the following commissions (Securities and Exchange Commission, Federal Power Commission, Interstate Commerce Commission, Federal Communications Commission) have jurisdiction over the following kinds of companies: telephone, telegraph, radio-telegraph, railroads, companies engaged in interstate sale of power at wholesale, companies engaged in interstate transportation and sale of natural gas for resale for ultimate public consumption, and registered public utility electric and gas holding companies.
- (d) Indicate the mileage of the following railroads: Atchison, Topeka & Santa Fe; Southern Pacific; and Pennsylvania.
- (e) The semi annual statement of an industrial company reported net sales and net income as follows:

| | <i>Three months ended June 30</i> | <i>Six months ended June 30</i> |
|------------------|---------------------------------------|-------------------------------------|
| Net sales. | \$248,853,244 | \$498,337,831 |
| Net income | 43,225,170 | 86,806,495 |

Calculate the net sales and net income for the three months ended March 31.

CHAPTER FOURTEEN

INCOME STATEMENT

Introduction. The income statement reports the income and charges for the period between the close of the last fiscal year and the close of the current fiscal year. From the analytical standpoint the income statement reveals the sources of total income and the distribution of total income. The total income is derived from two sources: operating and non-operating activities. The operating section of the income statement includes the operating revenues or net sales, the operating expenses, and the operating profit. It reports the income from the regular operations of the company, the expenses incurred to secure that income, and the difference or net profit from operations. The non-operating section of the income statement reveals the income received from and the expenses incurred in operations not directly related to the operating activities of the company, such as income from security investments and royalties on patents and processes. The aggregate of net profits from operations and the net income from non-operations is the total income. The distribution of total income is made to creditors in the form of fixed charges and to owners in the form of a credit to surplus.

The income statement and the balance sheet are interdependent. The balance sheet shows the condition of the company at the close of the fiscal year as a result of the operations during the year. The nature and the results of the operations, however, are reported in the income statement. The assets produce the income and the income, in turn, is distributed to those having claims against or an interest in the company. The income statement is a statement of causes whereas the balance sheet is a statement of effects. The change in the net worth as reported in two successive balance sheets is explained in the income statement for the intervening fiscal period.

The income statement is of interest to the investor in determining (a) the sources of income and the nature of expenditures, (b) changes in the amounts and sources of income and expenses, and (c) the stability of earnings available for distribution to the security holders.

Although corporate balance sheets follow a more or less standard general form, income statements in contrast show considerable variation. The income statement of a railroad and of a public utility are prepared in accordance with conditions peculiar to those industries and differ materially from that of an industrial company.

NORRESTER & WEST RAILWAY

Income Statement, This Year

| | |
|---|----------------------|
| Operating Revenues: | |
| Freight Traffic | \$251,548,972 |
| Passenger Traffic | 9,651,683 |
| Transportation of Mail | 2,809,892 |
| Transportation of Express | 510,552 |
| Miscellaneous | 9,437,728 |
| Total Operating Revenues | <u>\$273,958,827</u> |
| Operating Expenses: | |
| Maintenance of Way and Structures | 42,276,634 |
| Maintenance of Equipment | 57,761,735 |
| Traffic | 6,377,017 |
| Transportation | 99,674,092 |
| Miscellaneous & General | 13,289,897 |
| Total Operating Expenses | <u>\$219,379,375</u> |
| Net Operating Revenue | \$ 54,579,452 |
| Railway Tax Accruals | 30,405,744 |
| Railway Operating Income | <u>\$ 24,173,708</u> |
| Equipment Rents—Net, Cr. | 4,139,256 |
| Joint Facility Rents—Net, Dr. | 2,477,997 |
| Net Railway Operating Income | <u>\$ 25,834,967</u> |
| Other Income: | |
| Dividend Income | 143,416 |
| Other Income | 1,155,190 |
| Total Income | <u>\$ 27,133,573</u> |
| Miscellaneous Deductions | 4,105,651 |
| Income Available for Fixed Charges | <u>\$ 23,027,922</u> |
| Fixed Charges: | |
| Rent for Leased Roads and Equipment | 170,569 |
| Interest on Debt | 11,499,456 |
| Net Income | <u>\$ 11,357,897</u> |

Railroads and public utilities present the data in accordance with standard forms prescribed by regulatory bodies; no similar standard prevails among industrial companies. While in all cases net in-

come is shown as the balance of income remaining after expenses and charges have been deducted, the differences among railroad, public utility, and industrial income statements lie largely in the manner in which revenue and expense items are presented. The investor experiences the greatest difficulty in industrial income statements not only because of the lack of uniformity but also because of the lack of adequate information, in many instances.

TURABINE ELECTRIC LIGHT COMPANY

Income Statement, This Year

| | | |
|--|-------------|--------------|
| Operating Revenue | | \$16,285,056 |
| Operating Revenue Deductions: | | |
| Operating Expenses | \$9,341,949 | |
| Maintenance Expenses | 842,070 | |
| Depreciation Expense | 863,791 | |
| Taxes—Federal Income | 1,213,599 | |
| Taxes—Other | 1,296,666 | 13,558,075 |
| Operating Income | | 2,726,981 |
| Other Income | | 184,994 |
| Gross Income | | 2,911,975 |
| Income Deductions: | | |
| Bond Interest | \$507,850 | |
| Interest During Construction—Cr. | 77,791 | |
| Other Deductions | 6,056 | 436,115 |
| Net Income | | \$ 2,475,860 |

STRADDLEROCKE PRODUCTS CORPORATION

Income Statement, This Year

| | | |
|--|---------------|---------------|
| Income: | | |
| Net Sales | \$897,675,545 | |
| Other Income | 2,444,793 | \$900,120,338 |
| Income Deductions: | | |
| Cost of Products | 668,050,970 | |
| Delivery Expense | 95,186,602 | |
| Selling Expense | 48,945,469 | |
| General & Administrative Expense | 28,728,922 | |
| Miscellaneous Charges | 1,568,256 | |
| Interest on Funded Debt | 2,231,266 | |
| Provision for Federal Income Taxes | 22,150,000 | 866,861,485 |
| Net Income | | \$ 33,258,853 |

Operating section. The operating section reveals the income from operations, the operating expenses, and the net profit from operations.

Railroad. Gross operating revenues of a railroad consist of operating revenues from the transportation of freight traffic, passenger traffic, United States mails, and express traffic, and from incidental

sources related to transportation such as baggage, dining and buffet, freight and baggage storage, and demurrage. Norrestern & West Railway, for example, reported the following operating revenues:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------|----------------------|----------------------|----------------------|
| Freight Traffic | \$251,548,972 | \$307,999,809 | \$286,418,886 |
| Passenger Traffic | 9,651,683 | 11,523,951 | 11,970,999 |
| Transportation of Mail | 2,809,892 | 2,868,709 | 2,465,947 |
| Transportation of Express . . | 510,552 | 889,186 | 832,028 |
| Miscellaneous | 9,437,728 | 11,273,502 | 11,265,176 |
| Total | <u>\$273,958,827</u> | <u>\$334,555,157</u> | <u>\$312,953,036</u> |

Public utility. The total operating revenue of a public utility is derived primarily from the sale of its service, such as electric energy, gas, or telephone and telegraph, and from services incidental to utility operation, such as rent from utility property, customers' forfeited discounts and penalties (amounts forfeited by customers because of failure to pay their accounts within the specified time), servicing of customers' installations (charges to customers for the maintenance of appliances, wiring, piping or other installations on their premises), and directory advertising. Turbine Electric Light Company, for example, reported the following operating revenue:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------|------------------|------------------|-------------------|
| Operating Revenue | \$16,285,056 | \$16,356,516 | \$14,831,214 |

Turbine Electric Light Company sells only electric service; other companies sell more than one type of service. Public Service Electric and Gas Company of New Jersey, for example, sells both electric and gas service and distinguishes between the two services in reporting operating revenue. In a recent year it reported:

Operating Revenues:

| | |
|-------------------------------|----------------------|
| Electric Department | \$100,248,778 |
| Gas Department | 34,127,421 |
| | <u>\$134,376,199</u> |

The Detroit Edison Company offers a still more varied type of service and in a recent year reported:

| | |
|------------------------------------|---------------------|
| Electric Department | \$80,720,896 |
| Steam Heating Department | 2,290,779 |
| Gas Department | 516,064 |
| Water Department | 19,778 |
| | <u>\$83,547,517</u> |

Illinois Bell Telephone Company reported in a recent year:

| | |
|---|----------------------|
| Local service revenues | \$99,763,724 |
| Toll service revenues | 53,710,355 |
| Miscellaneous revenues. | 4,851,042 |
| Revenues from directory advertising, rents, and miscellaneous sources | |
| Less—uncollectible operating revenues | 230,036 |
| Provision for revenues which may be uncollectible | |
| Total Operating Revenues..... | <u>\$158,095,085</u> |

Industrial. Gross sales, as reported by an industrial company, represent the total of the amounts at which the merchandise has been billed to customers. The investor is more interested, however, in net sales, which represent the sales for which payment is forthcoming. It is determined by deducting returns, allowances, discounts, inter-company and divisional sales from gross sales. Corn Products Refining Company reported gross sales and net sales in a recent year as:

| | |
|--|----------------------|
| Gross Sales .. | \$123,802,532 |
| Less: transportation and other sales deductions..... | <u>12,287,265</u> |
| Net Sales | <u>\$111,515,267</u> |

Straddlerocke Products Corporation, on the other hand, reported net sales directly as:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------|------------------|------------------|-------------------|
| Net Sales | \$897,675,545 | \$986,403,723 | \$897,323,456 |

Operating Expenses. Operating expenses represent the expenses incurred in securing the operating revenue or net sales. The usual operating expenses are for labor, materials, and overhead.

Railroad. In the instance of railroads, operating expenses are classified on the basis of major operating divisions. The standard classification as established by the Interstate Commerce Commission is maintenance expenses, traffic expenses, transportation expenses, and miscellaneous and general expenses. Maintenance expenses represent expenditures for maintenance of way and structures and for maintenance of equipment. Traffic expenses include the expenses incurred in the soliciting of traffic, whereas transportation expenses consist of the direct expenses incurred in the transportation of traffic. Miscellaneous and general expenses include administrative overhead—salaries of officers and clerks, legal fees, pension benefits, and the like. The revised accounting regulations of the Interstate Commerce Commission require charging operating expenses with the loss on non-depreciable property retired, whether or not replaced. The following operating expenses were reported by Norrestern & West Railway:

INVESTMENT ANALYSIS

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------|----------------------|----------------------|----------------------|
| Maintenance: | | | |
| Way and Structures..... | \$42,276,634 | \$ 47,440,969 | \$ 44,821,207 |
| Equipment | 57,761,735 | 63,004,966 | 55,944,918 |
| Traffic Expenses | 6,377,017 | 8,076,524 | 7,369,195 |
| Transportation Expenses..... | 99,674,092 | 120,182,270 | 111,686,235 |
| Miscellaneous and General..... | 13,289,897 | 15,194,910 | 12,847,435 |
| Total..... | <u>\$219,379,375</u> | <u>\$253,899,639</u> | <u>\$232,668,990</u> |

The chief operating expenses of a railroad, therefore, are transportation, maintenance of equipment, and maintenance of way and structures.

Public utility. The operating revenue deductions of a public utility include the ordinary operating expenses and maintenance, depreciation, and taxes (federal taxes and general taxes). Turbine Electric Light Company reported the following operating revenue deductions:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------------------|---------------------|---------------------|---------------------|
| Operating Expenses..... | \$ 9,341,949 | \$10,279,581 | \$ 8,564,531 |
| Maintenance Expenses | 842,070 | 729,167 | 714,347 |
| Depreciation Expense..... | 863,791 | 561,870 | 212,745 |
| Taxes—Federal Income..... | 1,213,599 | 1,033,228 | 1,130,003 |
| Taxes—Other..... | 1,296,666 | 1,191,623 | 1,207,629 |
| Total..... | <u>\$13,558,075</u> | <u>\$13,795,469</u> | <u>\$11,829,255</u> |

Companies that sell more than one type of service commonly report operating revenue deductions separately for each service.

The operating expenses of electric and gas companies include production, transmission, distribution, customers' accounting and collection, sales promotion, administrative and general expenses, taxes, depreciation and amortization, and property losses chargeable to operations. Production expenses refer to the cost of generating electric energy, or of manufacturing and storing gas. Transmission expenses represent, in an electric power company, the cost of transmitting electric energy at high voltage from the generating plant to the centers of distribution, known as substations, where it is stepped down to the proper voltage for the distributive system, and in a gas company the cost of transmitting gas from the production or storage plant to the consuming areas. Distribution expenses comprise the cost of distributing electric energy, or gas, from the centers of distribution to customers. They include the cost of poles, wires, cables, conduits, transformers, meters, and services. Customers' accounting and collection expenses include the cost of supervising, directing, and performing work on customers' contracts, orders, inquiries, and accounts, and

in meter reading, credit investigations, and collecting. Sales promotion expenses represent the cost of the sales department, including the soliciting of new business. Taxes include federal, state, and local taxes. For example, Boston Edison Company recently reported taxes of \$11,243,158 consisting of:

| | |
|--|---------------------|
| Federal Income | \$4,264,172 |
| State and Municipal. | 5,760,365 |
| Federal Electrical Energy | 1,061,182 |
| Federal Old Age Benefits | 85,383 |
| State Unemployment Insurance | 42,693 |
| Federal Unemployment Insurance | 25,616 |
| Motor Excise | 3,747 |
| | <u>\$11,243,158</u> |

Property losses chargeable to operations represent extraordinary property losses amortized by charges to operations with the approval of the utility commission.

The operating expenses of a telephone company include current maintenance, depreciation, and amortization, traffic, commercial, operating rents, general and miscellaneous expenses, and taxes. Current maintenance refers to the cost of inspection, repairs, and rearrangements required to keep the plant and equipment in an efficient operating condition. Traffic expenses include the costs incurred in handling messages, principally operators' wages. Commercial expenses represent the cost incurred in business relations with customers, pay station commissions and the cost of directories, sales activities, and advertising. Operating rents refer to the rents for the use of buildings and other telephone service facilities.

Industrial. The operating expenses of an industrial company are the usual expenses—cost of goods sold, selling and general administrative expenses, maintenance, provision for doubtful accounts and depreciation, and state and local taxes. Federal income taxes, however, are not included as operating expenses. Those taxes are considered a distribution of net income. Straddlerocke Products Corporation reported operating expenses as:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|----------------------|----------------------|----------------------|
| Cost of Products | \$668,050,970 | \$779,298,141 | \$708,068,994 |
| Delivery Expense | 95,186,602 | 94,001,117 | 87,526,151 |
| Selling Expense | 48,945,469 | 46,548,403 | 40,907,892 |
| General and Administrative Expense | 28,728,922 | 26,372,696 | 23,463,829 |
| Total | <u>\$840,911,963</u> | <u>\$946,220,357</u> | <u>\$859,966,866</u> |

These operating expenses include \$20,788,888 for maintenance and \$14,944,273 for depreciation this year, compared with \$19,824,-

739 and \$12,960,570, respectively, last year, and \$19,286,125 and \$10,636,401, respectively, the previous year.

Net operating profit. The excess of operating revenue or net sales over operating expenses is referred to in a railroad report as "net railway operating income," in a public utility report as "net operating income," and in an industrial report as "net operating profit."

Railroad. The net railway operating income of the Norrestern & West Railway was reported as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------------|------------------|------------------|-------------------|
| Operating Revenues..... | \$273,958,827 | \$334,555,157 | \$312,953,036 |
| Operating Expenses..... | 219,379,375 | 253,899,639 | 232,668,990 |
| Net Operating Revenue..... | 54,579,452 | 80,655,518 | \$ 80,284,046 |
| Railway Tax Accruals..... | 30,405,744 | 40,740,500 | 41,457,382 |
| Railway Operating Income | 24,173,708 | 39,915,018 | 38,826,664 |
| Equipment Rents—Net, Cr. . . . | 4,139,256 | 8,089,418 | 6,462,871 |
| Joint Facility Rents—Net, Dr. . . | 2,477,997 | 2,556,051 | 2,674,382 |
| Net Railway Operating Income. . | \$ 25,834,967 | \$ 45,448,385 | \$ 42,615,153 |

Net operating revenue is the balance after operating expenses have been deducted from operating revenues and represents the gross profit from operations. It is subject to deduction for railway tax accruals which consist of local property taxes and federal income and payroll taxes. Total taxes of \$30,405,744 for Norrestern & West Railway this year, for example, included \$19,930,293 federal payroll and income taxes and \$10,475,451 state and local taxes. A more detailed statement of tax accruals was reported by the Atchison, Topeka & Santa Fe Railway in a recent year:

Federal Taxes:

| | |
|--------------------------------|---------------|
| Income..... | \$133,252,566 |
| Capital Stock..... | 2,256,873 |
| Retirement Annuities | 5,651,095 |
| Unemployment Insurance..... | 5,230,338 |
| Others..... | 137,083 |
| Total..... | \$146,563,955 |

State, Local, and Miscellaneous:

| | |
|---------------------------|---------------|
| Ad Valorem..... | 8,963,269 |
| Income and Franchise..... | 2,385,298 |
| Sales and Use..... | 340,694 |
| Others..... | 94,015 |
| Total..... | \$ 11,783,276 |
| Grand Total..... | \$158,347,231 |

Under uniform classification, income taxes are considered as a direct operating expense, in contrast to industrial and general accounting practice, which considers such taxes as a distribution

of net income. Under the theory of rate-making by the Interstate Commerce Commission, railroad traffic rates are adjusted so as to permit this tax to be covered before the balance available as a fair return is determined. Railway operating income, therefore, is the balance of net operating revenue.

Railway operating income is subject to adjustments for hire of equipment and joint facility rents. Hire of equipment (debit or credit) results from charges between railroad companies for the use of equipment lent on through traffic, that is, freight shipments originating on one railroad and terminating on another railroad. The Car Record Office of each railroad maintains a complete up-to-date record of the movements of all freight cars on its own lines, regardless of ownership, and of all its cars on other railroads. Norrester & West Railway, for example, reported income of \$4,139,256 representing the excess of rent received for its equipment used by other railroads over the amounts which the Norrester & West Railway paid to other railroads for the use of their equipment.

A more detailed statement of the hire-of-equipment item was reported by the New York Central Railroad in a recent report:

| | <i>Paid</i> | <i>Received</i> | <i>Balance</i> |
|-------------------------|---------------------|---------------------|-------------------------|
| Locomotives..... | \$ 197,115 | \$ 223,175 | Cr. \$ 26,060 |
| Passenger Cars..... | 1,721,622 | 1,801,362 | Cr. 79,740 |
| Freight Cars..... | 46,990,475 | 31,200,610 | Dr. 15,789,865 |
| Floating Equipment..... | 774,584 | 64,711 | Dr. 709,873 |
| Work Equipment..... | 17,968 | 57,538 | Cr. 39,570 |
| | <u>\$49,701,764</u> | <u>\$33,347,396</u> | Dr. <u>\$16,354,368</u> |

The hire-of-equipment item is variable from year to year for most railroads. The amount involved depends upon the amount and condition of the railroad's own rolling stock, the traffic originated by the railroad and received from connections, the surplus equipment which it may have on hand, and the rapidity with which equipment is handled.

The hire-of-equipment item may be a debit or a credit. Usually it is a debit item. A debit balance reported by a railroad is not always necessarily unfavorable. It may be due to a preponderance of interline freight rather than to a shortage of equipment. The railroad which hires the equipment must maintain it. In some instances, however, the apparently excessive maintenance charges of a railroad may be offset by the substantial sums received for rent of its own equipment to other lines.

The hire-of-equipment item is a credit when the railroad is

largely an originating railroad which does not receive a great amount of freight from connections in comparison with the amount it delivers to connections and which does not carry much bridge traffic. A bridge line or overhead line is one which carries traffic originated on another line and terminated on a third line. Northern Pacific Railway, for example, originates about 70 per cent of its traffic and usually reports a credit because cars originating on its lines go over the Burlington, as well as over other roads, and it, in turn, uses very few cars of other systems. The Norfolk & Western Railway receives annually a large net credit for equipment hire.

Joint facility rents represent payments for the use of consolidated services such as tracks, yards, bridges, terminals, and stations. The New York Central Railroad, for example, paid \$8,948,771 in a recent year for the use of facilities maintained by other companies and received \$6,311,374 for the use of its facilities by other railroads. The result, however, is usually reported net, as a debit or a credit. Since the New York Central Railroad spent more as joint facility rent than it received, the net was reported as a debit of \$2,637,397. On the other hand, the Northern Pacific Railway usually derives an average of \$2,400,000 from rentals of joint facilities. Although the net amount varies considerably for individual railroads, the annual amount is generally fairly uniform for any one railroad from year to year.

Net railway operating income is the net income from operations available for the security holders. It is the return received from the capital invested in the operating property.

Public utility. Net operating income of a public utility company is the excess of operating revenue over operating revenue deductions. Turbine Electric Light Company reported the following net operating income:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------------------------|---------------------|---------------------|---------------------|
| Operating Revenue..... | \$16,285,056 | \$16,356,516 | \$14,831,214 |
| Operating Revenue Deductions.... | 13,558,075 | 13,795,469 | 11,829,255 |
| Operating Income..... | <u>\$ 2,726,981</u> | <u>\$ 2,561,047</u> | <u>\$ 3,001,959</u> |

The operating income of a company selling more than one type of service is frequently reported for each type.

Industrial. Net operating profit of an industrial company is the excess of net sales over operating expenses. For example, the operating profit reported by Straddlerocke Products Corporation was as follows:

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| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Net Sales | \$897,675,545 | \$986,403,723 | \$897,323,456 |
| Operating Expenses: | | | |
| Cost of Products | 668,050,970 | 779,298,141 | 708,068,994 |
| Delivery Expense | 95,186,602 | 94,001,117 | 87,526,151 |
| Selling Expense | 48,945,469 | 46,548,403 | 40,907,892 |
| General and Administrative Expense | 28,728,922 | 26,372,696 | 23,463,829 |
| Total | 840,911,963 | 946,220,357 | 859,966,866 |
| Operating Profit | \$ 56,763,582 | \$ 40,183,366 | \$ 37,356,590 |

Non-operating section. Non-operating income is the net income received from sources other than the sale of the company's products or services. It is generally in the form of interest and dividends on securities owned, rents, and royalties.

Railroad. The non-operating income of a railroad consists of rents, dividends, interest, and sometimes profits from non-transportation property. Norrester & West Railway reported the following non-operating income:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------|------------------|------------------|-------------------|
| Other Income: | | | |
| Dividend Income | \$ 143,416 | \$1,207,734 | \$1,408,196 |
| Other Income | 1,155,190 | 1,066,679 | 986,825 |
| Total | \$1,298,606 | \$2,274,413 | \$2,395,021 |

A more detailed statement of non-operating income was reported by Union Pacific Railroad in a recent year:

| | |
|--|---------------------|
| Income from oil operations in Southern California—net | \$ 7,681,904 |
| Dividend on stocks owned | 5,264,020 |
| Interest on bonds, notes, and equipment trust certificates owned | 2,149,738 |
| Income from unfunded securities and accounts | 1,805,198 |
| Rent from lease of road and equipment | 172,243 |
| Miscellaneous rents | 432,680 |
| Miscellaneous income | 2,895,635 |
| | <u>\$20,401,418</u> |

Public utility. In addition to security income, the non-operating income of a public utility company may also include income from merchandising, jobbing, and contract work. Turabine Electric Light Company reported non-operating income as:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|------------------------|------------------|------------------|-------------------|
| Other Income | \$184,994 | \$248,798 | \$160,890 |

Industrial. Other income as reported by Straddlerocke Products Corporation was:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|------------------------|------------------|------------------|-------------------|
| Other Income | \$2,444,793 | \$2,465,639 | \$2,438,404 |

Du Pont & Company, on the other hand, reported a much more detailed account of non-operating income. The following is from a recent report:

Other Income:

| | |
|--|----------------------|
| Dividends from General Motors Corp. common stock | \$120,000,000 |
| Income from investment in controlled companies not wholly owned | 2,937,218 |
| Miscellaneous other income—net | 8,180,584 |
| | <u>\$131,117,802</u> |
| Less—provision for federal taxes on other income (allocated portion) | 10,760,000 |
| | <u>\$120,357,802</u> |

Distribution of total income. Total income is the aggregate of net operating income and net non-operating income. It is the amount of income available for the payment of fixed and other charges and for distribution to stockholders.

Railroad. Norrestern & West Railway reported income available for fixed charges as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|---------------------|---------------------|---------------------|
| Net Railway Operating Income. | \$25,834,967 | \$45,448,385 | \$42,615,153 |
| Other Income | 1,298,606 | 2,274,413 | 2,395,021 |
| Total Income | <u>27,133,573</u> | <u>47,722,798</u> | <u>45,010,173</u> |
| Miscellaneous Deductions | 4,105,651 | 8,493,266 | 790,162 |
| Income Available—Fixed Charges | <u>\$23,027,922</u> | <u>\$39,229,532</u> | <u>\$44,220,011</u> |

Since 1935, under Interstate Commerce Commission regulations, "miscellaneous deductions from income" has included miscellaneous rents and certain miscellaneous tax accruals not chargeable to railway operations.

Public utility. The income available for fixed charges was reported by Turabine Electric Light Company as:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------------------|--------------------|--------------------|--------------------|
| Operating Income | \$2,726,981 | \$2,561,047 | \$3,001,959 |
| Other Income | 184,994 | 248,798 | 160,890 |
| Gross Income | <u>\$2,911,975</u> | <u>\$2,809,845</u> | <u>\$3,162,849</u> |

Industrial. Straddlerocke Products Corporation reported the following income available for fixed charges:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------------|---------------------|---------------------|---------------------|
| Operating Profit | \$56,763,582 | \$40,183,366 | \$37,356,590 |
| Other Income | 2,444,793 | 2,465,639 | 2,438,404 |
| Total | <u>\$59,208,375</u> | <u>42,649,005</u> | <u>39,794,994</u> |
| Less: Misc. Charges | 1,568,256 | Cr. 766,972 | 278,035 |
| Available—Fixed Charges | <u>\$57,640,119</u> | <u>\$43,415,977</u> | <u>\$39,516,959</u> |

Fixed charges. Fixed charges include financial charges which must be paid before earnings can be distributed to stockholders as

dividends. They include interest on funded and unfunded debt and amortization of bond discount. Amortization of bond discount is the annual charge by which the discount on bonds issued below par is gradually written off during the life of the bond. Since it is in the nature of additional interest, it is considered a fixed charge.

Railroad. The usual fixed charges of a railroad consist of interest on funded and unfunded debt, amortization of discount on funded debt, and rent for leased road and miscellaneous properties. Interest on unfunded debt usually represents short-term loans or agreements for the purchase of equipment from manufacturers with payments to be made over a period of years. Rent for leased road is usually in the form of guaranteed interest and dividends on the securities of the leased road. Illinois Central Railroad, for example, pays \$382,000 annually to the Alabama and Vicksburg Railway for the rent of the road and its facilities. The rental is equal to interest on the bonds, dividends on the stock, and organization expenses of the latter railroad. Such payment represents to the lessor money which it would have had to pay out in interest and dividends on security issues of its own and hence is classed with interest as a fixed charge.

The fixed charges reported by Norrester & West Railway were as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------------|---------------------|--------------------|--------------------|
| Rent—Leased Road & Equipment... | \$ 170,569 | \$ 175,808 | \$ 176,017 |
| Interest on Debt. | 11,499,456 | 9,262,289 | 8,656,667 |
| Total. | <u>\$11,670,025</u> | <u>\$9,438,097</u> | <u>\$8,832,684</u> |

In contrast with the Norrester & West Railway, rent for leased roads and equipment is a major fixed charge to the Pennsylvania Railroad. Fixed charges as recently reported by the latter company were:

| | |
|---|---------------------|
| Rent for leased roads and equipment. | \$48,783,668 |
| Miscellaneous rents. | 415,952 |
| Miscellaneous tax accruals. | 239,963 |
| Interest on funded debt | 26,497,330 |
| Interest on unfunded debt. | 258,812 |
| Miscellaneous. | 970,360 |
| Sinking and reserve funds—accretions. | 6,358,199 |
| Total. | <u>\$83,524,284</u> |

Public utility. Turabine Electric Light Company reported the following fixed charges:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Bond Interest | \$507,850 | \$513,363 | \$335,958 |
| Interest During Construction—Cr. | 77,791 | 35,013 | nil |
| Depreciation Accrual Charged to Income | nil | nil | 353,522 |
| Other Deductions | 6,056 | 5,185 | 36,605 |
| Total | <u>\$436,115</u> | <u>\$483,535</u> | <u>\$726,085</u> |

The "depreciation accrual charged to income" the previous year was the equivalent of interest at 3 per cent on the existing reserve. The company treated money borrowed from the reserve on the same basis as money obtained by the issue of bonds.

Industrial. The fixed charges of Straddlerocke Products Corporation were:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------------|------------------|------------------|-------------------|
| Interest on Funded Debt | \$2,231,266 | \$1,857,431 | \$1,357,568 |

Bethlehem Steel Corporation in a recent report gave a more detailed breakdown of fixed charges as:

| | |
|---|---------------------|
| Interest on funded debt | \$ 3,994,175 |
| Amortization of discount on sale of bonds | 2,059,016 |
| Other interest | 1,827,710 |
| Premium on bonds redeemed | 6,404,650 |
| | <u>\$14,285,551</u> |

Though the annual sinking fund charge under a bond indenture is a capital charge, some industrial bond indentures require that the fund be created out of earnings, in which case it becomes a fixed charge.

Net income. Net income is the amount available for distribution to the stockholders.

Railroad. The Norrestern & West Railway reported the following net income:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|---------------------|---------------------|---------------------|
| Income Available—Fixed Charges | \$23,027,922 | \$39,229,532 | \$44,220,011 |
| Fixed Charges: | | | |
| Rent-Leased Road & Equipment | 170,569 | 175,808 | 176,017 |
| Interest on Debt | 11,499,456 | 9,262,289 | 8,656,667 |
| Net Income | <u>\$11,357,897</u> | <u>\$29,791,435</u> | <u>\$35,387,327</u> |

The net income of a railroad may be disposed of (a) by appropriating a portion of it for specific purposes, such as sinking funds to retire funded debt, reserves for other purposes, and appropriations to finance improvements to railroad property, and (b) transferring the balance to profit and loss, the account which is equivalent to unappropriated earned surplus in an industrial balance sheet.

Public utility. The net income as reported by Turabine Electric Light Company was as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------|--------------------|--------------------|--------------------|
| Gross Income | \$2,911,975 | \$2,809,845 | \$3,162,849 |
| Income Deductions | 436,115 | 483,535 | 726,085 |
| Net Income | <u>\$2,475,860</u> | <u>\$2,326,310</u> | <u>\$2,436,764</u> |

Industrial. Under the corporate income tax, the federal government is regarded as sharing in the profits of industrial companies. Net income, therefore, is usually shown before and after provision for federal income taxes. The net income of Stradlerrocke Products Corporation was reported as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------|---------------------|---------------------|---------------------|
| Net Income before Taxes | \$55,408,853 | \$41,558,546 | \$38,159,391 |
| Provision for Federal Taxes | 22,150,000 | 16,200,000 | 15,000,000 |
| Net Income after Taxes | <u>\$33,258,853</u> | <u>\$25,358,546</u> | <u>\$23,159,391</u> |

Review Questions

1. Define an income statement.
2. Name the divisions of an income statement.
3. Discuss the relation of the income statement to the balance sheet.
4. Discuss the significance of the income statement to the investor.
5. Contrast railroad and public utility income statements with industrial income statements.
6. Indicate the nature of the operating revenue of a railroad and of a public utility.
7. Distinguish between gross sales and net sales as reported by the following industrial company:

Gross sales:

To customers:

| | |
|----------|----------------------|
| Domestic | \$138,931,817 |
| Foreign | 3,559,059 |
| | <u>\$142,490,876</u> |

To subsidiary and affiliated companies:

| | |
|----------|--------------------|
| Domestic | \$1,959,614 |
| Foreign | 394, 12 |
| | <u>\$2,353,626</u> |

| | |
|--|----------------------|
| Total | <u>\$144,844,502</u> |
| Less transportation and other sales deductions | 12,947,987 |
| Net sales | <u>\$131,896,515</u> |

8. Indicate the nature of the operating expenses of a railroad, a public utility, and an industrial company.
9. Distinguish between net operating revenue, operating income, and net operating income of a railroad.
10. Comment on the following report of "hire of equipment and joint facility rent" as reported by a railroad:

| | <i>This Year</i> | <i>Last Year</i> |
|--|------------------|------------------|
| Hire of freight cars: | | |
| Debit | nil | \$3,711,180 |
| Credit | \$1,834,763 | nil |
| Balance Cr. | \$1,834,763 | Dr. \$3,711,180 |
| Rent from other equipment: | | |
| Debit | \$1,514,376 | \$1,469,20 |
| Credit | 1,061,998 | 551,625 |
| Balance Dr. | \$ 452,378 | Dr. \$ 917,580 |
| Joint facility rents: | | |
| Debit | \$2,079,705 | \$2,230,314 |
| Credit | 1,272,791 | 1,311,951 |
| Balance Dr. | \$ 806,914 | Dr. \$ 918,363 |
| Net equipment and joint facility rents . Cr. | \$ 575,471 | Dr. \$5,547,123 |

11. Indicate the calculation and significance of net operating income in a public utility and net operating profit in an industrial company.

12. Discuss the nature of non-operating income of a railroad, a public utility, and an industrial company.

13. Indicate the sources of the income available for fixed charges.

14. Define and indicate the nature of fixed charges in a railroad, a public utility, and an industrial company.

15. Define and indicate the calculation of net income in a railroad, a public utility, and an industrial company.

Assignment

(a) Construct the income statement in standard form from the following data:

(1) RAILROAD

| | |
|--|---------------|
| Hire of Equipment—Debit Balance | \$ 10,328,000 |
| Taxes | 61,744,000 |
| Operating Revenues | 353,065,000 |
| Joint Facility Rents—Debit Balance | 928,000 |
| Non-operating Income | 15,799,000 |
| Fixed Charges | 14,740,000 |
| Operating Expenses | 219,039,000 |

(2) PUBLIC UTILITY

| | |
|--|---------------|
| Fixed Charges | \$ 13,139,000 |
| Operating Revenues | 180,858,000 |
| Miscellaneous Operating Expenses | 72,864,000 |
| Maintenance | 9,353,000 |
| Non-operating Income | 724,000 |
| Taxes | 40,927,000 |
| Depreciation | 22,906,000 |

(3) INDUSTRIAL

| | |
|--|--------------|
| Depreciation | \$ 6,433,000 |
| Other Income | 1,167,000 |
| Maintenance | 900,000 |
| Net Sales | 371,867,000 |
| Provision for Federal Taxes | 16,718,000 |
| Fixed Charges | 259,000 |
| Provision for Contingencies | 5,000,000 |
| Miscellaneous Operating Expenses | 334,308,000 |

- (b) In a railroad income statement determine operating revenues from the following data:

| | |
|--|---------------|
| Hire of Equipment—Debit Balance..... | \$ 15,000,000 |
| Taxes..... | 72,000,000 |
| Joint Facility Rents—Debit Balance | 2,000,000 |
| Operating Expenses | 250,000,000 |
| Net Operating Income | 111,000,000 |

- (c) In a public utility income statement, determine total income from the following data:

| | |
|--|---------------|
| Miscellaneous Operating Expenses | \$ 90,000,000 |
| Taxes..... | 48,000,000 |
| Operating Revenue | 250,000,000 |
| Maintenance | 12,000,000 |
| Non-operating Income | 50,000,000 |
| Depreciation | 30,000,000 |

- (d) In an industrial income statement, determine net income from the following data:

| | |
|-----------------------------------|---------------|
| Operating Expenses | \$380,000,000 |
| Provision for Contingencies | 8,000,000 |
| Net Sales | 450,000,000 |
| Other Income | 20,000,000 |
| Provision for Federal Taxes | 22,000,000 |
| Fixed Charges..... | 9,000,000 |

CHAPTER FIFTEEN

THE BALANCE SHEET

Introduction. The balance sheet is a financial statement showing the condition of the business as of a specified date, usually the close of the fiscal year. It states the assets, the liabilities, and the net worth of the company. The statement of assets indicates both the forms in which the capital has been invested and the amount of capital invested in each form. The capital is usually invested in three general forms: in working capital, as evidenced by the current assets; in fixed capital, as shown by land, plant, and equipment and by security investments; and in miscellaneous capital investments, as revealed by deferred assets, intangible assets, and sinking funds. The statement of liabilities and net worth, on the other hand, shows both the sources from which the capital has been derived and the amount of capital derived from each source. The capital is usually obtained from creditors, as evidenced by current liabilities and funded debt, and from owners, as revealed in the capital stock, reserves, and surplus accounts.

The balance sheet is significant to the investor as a basis of determining (a) the amount of capital invested in the business, (b) the working-capital position of the company, (c) the capital structure, (d) the assets that provide income, and (e) the adequacy of reported earnings.

NORRESTERN & WEST RAILWAY
Balance Sheet, December 31, This Year

Assets

Investments:

Road and Equipment Property:

| | |
|---|---------------|
| Road | \$541,492,519 |
| Equipment | 401,087,021 |
| General Expenditures | 23,518,161 |
| Improvements on Leased Property | 1,377,865 |
| Total Road and Equipment Property | \$967,475,566 |

THE BALANCE SHEET

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| | |
|--|----------------------|
| Acquisition Adjustment—Cr. | \$ 12,767,830 |
| Donations and Grants—Cr. | 4,538,384 |
| Investment in Transportation Property | \$950,169,352 |
| Less: Depreciation and Amortization | 290,203,961 |
| Net Investment in Transportation Property. | <u>\$659,965,391</u> |
| Miscellaneous Physical Property | 22,966,335 |
| Less: Depreciation | 2,978,069 |
| Net Miscellaneous Physical Property. | <u>\$ 19,988,266</u> |
| Sinking Funds. | 261,707 |
| Special Reserve Funds | 4,192,402 |
| Investments in Affiliated Companies. | 32,483,833 |
| Other Investments | 8,199,877 |
| Total Investments. | <u>\$725,091,476</u> |

Current Assets:

| | |
|---|----------------------|
| Cash in Treasury and in Transit | \$ 29,712,330 |
| Temporary Cash Investments—U. S. Gov't Securities | 803,238 |
| Special Deposits. | 4,040,375 |
| Loans and Bills Receivable | 44,010 |
| Traffic and Car-Service Balances | 2,409,667 |
| Net Balance Receivable from Agents and Conductors. | 3,058,004 |
| Miscellaneous Accounts Receivable. | 4,069,125 |
| Materials and Supplies. | 18,764,521 |
| Interest and Dividends Receivable. | 63,715 |
| Accrued Accounts Receivable. | 5,534,200 |
| Other Current Assets. | 41,520 |
| Total Current Assets. | <u>\$ 68,540,705</u> |

Deferred Assets:

| | |
|------------------------------------|-------------------|
| Working Fund Advances. | \$ 162,784 |
| Insurance and Other Funds. | 122,363 |
| Other Deferred Assets. | 691,677 |
| Total Deferred Assets. | <u>\$ 976,824</u> |

Unadjusted Debits:

| | |
|----------------------------------|----------------------|
| Prepayments. | \$ 326,768 |
| Discount on Funded Debt. | 1,167,309 |
| Other Unadjusted Debits. | 1,176,861 |
| Total Unadjusted Debits. | <u>\$ 2,670,938</u> |
| Total. | <u>\$797,279,943</u> |

Liabilities

Capital Stock:

| | |
|---|----------------------|
| Common Stock (Par \$25). | \$195,427,463 |
| 3½% Cumulative Convertible Preferred Stock (Par \$100). | 19,662,940 |
| Total Stock Outstanding with Public | <u>\$215,090,403</u> |
| Premium on Capital Stock | 2,424,843 |
| Total Capital Stock. | <u>\$217,515,246</u> |

Long Term Debt:

| | |
|---|----------------------|
| Funded Debt. | \$240,052,000 |
| Equipment Obligations & Conditional Sales Agreements. | 95,141,225 |
| Total Long-term Debt | <u>\$335,193,225</u> |

Current Liabilities:

| | |
|--|----------------------|
| Audited Accounts and Wages Payable | \$ 13,581,708 |
| Miscellaneous Accounts Payable | 4,301,761 |
| Interest Matured Unpaid | 658,816 |
| Dividends Matured Unpaid | 127,944 |
| Unmatured Interest Accrued | 5,866,063 |
| Unmatured Dividends Declared | 172,052 |
| Accrued Accounts Payable | 5,321,749 |
| Taxes Accrued | 27,059,389 |
| Other Current Liabilities | 1,083,480 |
| Total Current Liabilities | <u>\$ 58,172,962</u> |

Deferred Liabilities:

| | |
|---|----------------------|
| Liability for Provident Funds | \$ 13,754,254 |
| Other Deferred Liabilities | 2,204,625 |
| Total Deferred Liabilities | <u>\$ 15,958,879</u> |

Unadjusted Credits:

| | |
|--|---------------------|
| Premium on Funded Debt | \$ 2,954 |
| Other Unadjusted Credits | 5,838,451 |
| Accrued Depreciation—Leased Property | 92,480 |
| Total Unadjusted Credits | <u>\$ 5,933,885</u> |

Surplus:

| | |
|---|----------------------|
| Unearned Surplus | \$ 328,920 |
| Earned Surplus—Appropriated | 10,683,086 |
| Earned Surplus—Unappropriated | 153,493,740 |
| Total Surplus | <u>\$164,505,746</u> |
| Total | <u>\$797,279,943</u> |

Working capital: current assets. Current assets are those assets which in the normal course of business operations provide the means of meeting the claims of current creditors. They include cash, marketable securities, receivables, and inventory. The form in which working capital is invested is continually changing. At one time it is invested in a stock of goods (inventory), and when the inventory is sold the working capital is transferred from inventory to receivables. As the receivables are liquidated the working capital is again transformed into cash and is available again for operating purposes. Companies that finance their seasonal peaks out of current funds sometimes find employment for the surplus cash during slow periods in the purchase of highly marketable securities. The extent to which working capital is distributed among cash, marketable securities, receivables, and inventory varies according to the character of the business.

Railroad. Railroads sell a service instead of a product and sell largely on a cash basis. Since they do not face the problem of financing inventory or receivables, their chief current assets are

cash and security investments. The item "Materials and Supplies" reported in the current assets represents the supply of materials such as coal, fuel, oil, steel, track, ties, and the like, required for the maintenance of road, structure, and equipment. Norrester & West Railway, for example, reported the following current assets:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|---------------------|----------------------|---------------------|
| Cash in Treasury & in Transit | \$29,712,330 | \$27,592,171 | \$40,020,813 |
| Temporary Cash Investments—U. S. | | | |
| Government Securities | 803,238 | 25,969,493 | 6,009,000 |
| Special Deposits* | 4,040,375 | 10,503,902 | 10,783,627 |
| Loans and Bills Receivable | 44,010 | 260,890 | 286,814 |
| Traffic & Car-Service Balances | 2,409,667 | 2,035,098 | 1,355,210 |
| Net Balance Receivable from Agents and Conductors | 3,058,004 | 3,362,581 | 3,777,239 |
| Miscellaneous Accounts Receivable | 4,069,125 | 6,243,431 | 4,726,478 |
| Materials and Supplies | 18,764,521 | 25,607,533 | 20,059,089 |
| Interest & Dividends Receivable | 63,715 | 305,215 | 133,353 |
| Accrued Accounts Receivable | 5,534,200 | 7,444,845 | 6,205,559 |
| Other Current Assets | 41,520 | 42,767 | 44,644 |
| Total | <u>\$68,540,705</u> | <u>\$109,367,926</u> | <u>\$93,401,826</u> |

* To pay interest, dividends, matured funded debt, and so forth

Cash of \$29,712,330 and temporary cash investments of \$803,238 amounted to 44.5 per cent of total current assets.

TURBINE ELECTRIC LIGHT COMPANY

Balance Sheet, December 31, This Year

Assets

| | |
|--|---------------------|
| Utility Plant | \$52,263,840 |
| Investment and Fund Accounts: | |
| Other Physical Property | \$ 191,640 |
| Subsidiary Company Common Stock | 2,029,699 |
| Treasury Common Stock | 117,026 |
| Other Investments | 93,048 |
| Total Investment and Fund Accounts | <u>\$ 2,431,413</u> |
| Current and Accrued Assets: | |
| Cash | \$ 1,349,790 |
| Temporary Cash Investments | 7,230,753 |
| Notes and Accounts Receivable | 1,198,704 |
| Fuel Supplies | 1,825,258 |
| Other Materials and Supplies | 796,024 |
| Other Current and Accrued Assets | 735,152 |
| Total Current and Accrued Assets | <u>\$13,135,681</u> |
| Deferred Debits | 97,894 |
| Total | <u>\$67,928,828</u> |

Liabilities

| | |
|--|--------------|
| Long-term Debt..... | \$18,020,000 |
| Current and Accrued Liabilities: | |
| Accounts Payable..... | \$ 570,720 |
| Accrued Taxes..... | 2,102,674 |
| Accrued Interest..... | 215,628 |
| Customers' Deposits..... | 50,952 |
| Other..... | 52,874 |
| Total Current and Accrued Liabilities..... | \$ 2,992,848 |
| Reserve for Depreciation..... | 11,458,250 |
| Contributions in Aid of Construction..... | 117,786 |
| Deferred Credits..... | 34,880 |
| Capital Stock and Surplus: | |
| 3.90% Preferred Stock (Par \$50)..... | \$ 8,000,000 |
| Common Stock (Par \$25)..... | 21,100,000 |
| Earned Surplus..... | 6,200,064 |
| Capital Surplus..... | 5,000 |
| Total Capital Stock and Surplus..... | \$35,305,064 |
| Total..... | \$67,928,828 |

Public utility. Public utility operating companies are in a position similar to railroads in that they sell a service, and primarily on a cash basis. For example, Turabine Electric Light Company reported the following current assets:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------------------|------------------|------------------|-------------------|
| Cash..... | \$1,349,790 | \$1,015,573 | \$1,896,888 |
| Temporary Cash Investments..... | 7,230,753 | 4,487,050 | 6,991,222 |
| Notes and Accounts Receivable..... | 1,198,704 | 1,255,902 | 1,210,772 |
| Fuel Supplies..... | 1,825,258 | 3,237,832 | 2,266,759 |
| Other Materials and Supplies..... | 796,024 | 793,921 | 729,862 |
| Other Current and Accrued Assets..... | 735,152 | 340,657 | 343,822 |
| Total..... | \$13,135,681 | \$11,130,935 | \$13,439,325 |

Industrial. Industrial companies, in contrast to railroad and public utility companies, usually sell a product rather than a service, and for this reason their current assets are marked by the importance of receivables and inventory.

STRADDLEROCKE PRODUCTS CORPORATION

Balance Sheet, December 31, This Year

Assets

| | |
|--|---------------|
| Current Assets: | |
| Cash..... | \$ 45,649,425 |
| U. S. Government Securities..... | 7,943,146 |
| Notes and Accounts Receivable, less reserve..... | 32,825,139 |
| Inventories, lower of average cost or market— | |
| Products and Materials..... | 70,204,095 |
| Supplies..... | 9,920,135 |
| Total Current Assets..... | \$166,541,940 |

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Investments:

Foreign Subsidiaries—

| | |
|---|--------------|
| Canadian | \$ 5,692,438 |
| English, Australian and Argentine | 3,944,717 |
| Continental European | 1 |

| | |
|--|--------------|
| | \$ 9,637,156 |
| Less—Reserve for Investments | 3,503,935 |

| | |
|--|--------------|
| | \$ 6,133,221 |
|--|--------------|

| | |
|---|--------|
| Domestic Subsidiaries, not consolidated | 12,472 |
|---|--------|

| | |
|---|-----------|
| Miscellaneous Investments, Deposits and Receivables, less reserve | 2,568,028 |
|---|-----------|

| | |
|-----------------------------|--------------|
| Total Investments | \$ 8,713,721 |
|-----------------------------|--------------|

Property, Plant and Equipment (Stated at cost or, as to certain properties, at sound values as appraised as of dates of acquisition, less certain adjustments):

| | |
|----------------|---------------|
| Land | \$ 13,107,501 |
|----------------|---------------|

| | |
|---|-------------|
| Building, Machinery and Equipment | 222,387,706 |
|---|-------------|

| | |
|--|---------------|
| | \$235,495,207 |
|--|---------------|

| | |
|---|------------|
| Less—Reserve for Depreciation | 89,363,425 |
|---|------------|

| | |
|------------------------------|---------------|
| Total Property, etc. | \$146,131,782 |
|------------------------------|---------------|

| | |
|--------------------------------------|-----------|
| Prepaid and Deferred Items | 2,215,903 |
|--------------------------------------|-----------|

| | |
|--------------------|---|
| Goodwill | 1 |
|--------------------|---|

| | |
|-----------------|---------------|
| Total | \$323,603,347 |
|-----------------|---------------|

Liabilities

Current Liabilities:

| | |
|----------------------------|---------------|
| Accounts Payable | \$ 31,474,228 |
|----------------------------|---------------|

| | |
|-------------------------------|------------|
| Accrued Liabilities | 11,003,021 |
|-------------------------------|------------|

| | |
|--|------------|
| Provision for Federal Income Taxes | 22,150,000 |
|--|------------|

| | |
|---|--------------|
| Less—U. S. Treasury Savings Notes | (22,150,000) |
|---|--------------|

| | |
|-------------------------------------|---------------|
| Total Current Liabilities | \$ 42,477,249 |
|-------------------------------------|---------------|

| | |
|--------------------------|---------------|
| Long-term Debt | \$ 80,500,000 |
|--------------------------|---------------|

| | |
|---|------------|
| Minority Interest in Subsidiaries | \$ 327,067 |
|---|------------|

Reserves:

| | |
|------------------------------|--------------|
| Prior Years' Taxes | \$ 9,090,039 |
|------------------------------|--------------|

| | |
|--|-----------|
| Insurance and Other Reserves | 1,600,511 |
|--|-----------|

| | |
|--------------------------|---------------|
| Total Reserves | \$ 10,690,550 |
|--------------------------|---------------|

Capital Stock and Surplus:

| | |
|---------------------------------|---------------|
| Common Stock (no par) | \$ 52,585,597 |
|---------------------------------|---------------|

| | |
|--------------------------|-------------|
| Earned Surplus | 137,022,884 |
|--------------------------|-------------|

| | |
|---|---------------|
| Total Capital Stock and Surplus | \$189,608,481 |
|---|---------------|

| | |
|-----------------|---------------|
| Total | \$323,603,347 |
|-----------------|---------------|

Straddlerocke Products Corporation, for example, reported the following current assets:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Cash | \$ 45,649,425 | \$ 39,986,989 | \$ 24,916,524 |
| U.S. Government Securities | 7,943,146 | 5,703,309 | 5,697,488 |
| Notes and Accounts Receivable, less reserve*. | 32,825,139 | 36,892,995 | 36,462,232 |

Inventories:

| | | | |
|-------------------------------|----------------------|----------------------|----------------------|
| Products and Materials..... | 70,204,095 | 77,267,492 | 72,143,135 |
| Supplies..... | 9,920,135 | 12,444,196 | 14,025,019 |
| Total Current Assets. | <u>\$166,541,940</u> | <u>\$172,294,981</u> | <u>\$153,244,398</u> |

* Reserve: \$3,321,942 (this year); \$3,465,131 (last year); \$3,500,557 (previous year)

Inventory of \$80,124,230 and receivables of \$32,825,139 represented 48.1 per cent and 19.7 per cent, respectively, of total current assets. Current assets, in all cases, should be valued at cash or liquidating value.

Fixed capital. Fixed capital refers to the investment of capital in more or less permanent form—assets which are not bought for the purpose of resale but for the purpose of producing goods or services which are for sale—such as fixed assets and investments in subsidiary companies.

Fixed assets. Fixed assets consist of land, plant, machinery, and equipment.

Railroad. The “investment” account in a railroad balance sheet includes all the fixed, or capital, assets of the company, both operating and non-operating. The operating fixed assets consist of physical property directly owned and used for transportation services, such as road, equipment, and improvements on leased railway property. Norrester & West Railway showed the following investment in operating property:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------------------|----------------------|----------------------|----------------------|
| Road and Equipment Property: | | | |
| Road..... | \$541,492,519 | \$524,565,420 | \$488,527,295 |
| Equipment..... | 401,087,021 | 384,212,743 | 343,536,791 |
| General Expenditures. | 23,518,161 | 23,568,857 | 23,624,856 |
| Improvements on Leased Property | <u>1,377,865</u> | <u>965,769</u> | <u>930,228</u> |
| Total Road & Equipment. . . . | <u>\$967,475,566</u> | <u>\$933,312,789</u> | <u>\$856,619,170</u> |
| Acquisition Adjustments—Cr..... | 12,767,830 | 12,248,292 | 11,916,446 |
| Donations and Grants—Cr. | <u>4,538,384</u> | <u>4,220,470</u> | <u>2,993,944</u> |
| Investment—Transportation | | | |
| Property | \$950,169,352 | \$916,844,027 | \$841,708,780 |
| Less: Depreciation & Amortization.. | <u>290,203,961</u> | <u>288,159,495</u> | <u>277,219,857</u> |
| Net Investment—Transportation | | | |
| Property..... | <u>\$659,965,391</u> | <u>\$628,684,532</u> | <u>\$564,488,923</u> |

The item “equipment” represents the investment in equipment owned by the railroad and the railroad’s equity in equipment which is pledged under an equipment trust issue. Some railroads report each type of investment in equipment separately. The New York Central Railroad in a recent year reported a total investment in equipment of \$434,803,653, of which \$312,706,392 represented

owned equipment and \$122,097,261 the equity in equipment in trust.

The term "general expenditures" refers to expenditures for additions and betterments and road extensions during the year. Additions are additional facilities, additions to existing facilities (such as track extensions), and additional devices applied to equipment. Betterments are improvements through substitution of superior parts for worn-out or obsolescent parts retired, such as strengthening of bridges and application of heavier rail. Norrestern & West Railway reports "General Expenditures" as a lump sum of \$23,518,161. Some companies, however, report the respective amounts applicable to road and to equipment.

The item "improvements on leased property" represents capital expenditures on other roads which the company leases under long-term contracts. Since the conditions of the lease make the leased property equivalent to owned property, the betterments and additions are considered as additions to the lessor road's property account. The Pennsylvania Railroad, in contrast to Norrestern & West Railway, recently reported the breakdown of the "Improvements on Leased Property" account as:

| | |
|--------------------------------|----------------------|
| Road | \$136,647,216 |
| Equipment | 5,448,096 |
| General Expenditures | 2,789,618 |
| | <u>\$144,884,930</u> |

Obviously, the amount reported as "Improvements on Leased Property" tends to vary from road to road in accordance with the amount of property leased as evidenced in part by the income statement deduction "Rent for Leased Roads." In the instance of Norrestern & West Railway, the asset account "Improvement on Leased Property" of \$1,377,865 compared with the income deduction "Rent for Leased Roads and Equipment" of \$170,569, whereas the Pennsylvania Railroad in a recent year reported the asset "Improvements on Leased Property" of \$144,884,930 compared with the income deduction "Rent for Leased Roads and Equipment" of \$48,783,668.

The item "Grants in Aid of Construction" represents contributions by governmental agencies toward the cost of road and equipment property. Under such grants government traffic was carried at less than established commercial rates. By an order of the Interstate Commerce Commission effective January 1, 1943, such

contributions are now treated as reductions in the cost of property as stated on the asset side of the balance sheet. Under the provisions of the Boren Act which became effective October 1, 1946, all land-grant rate reductions on federal troops and military property were discontinued.

Public utility. The fixed assets of an operating public utility company consist primarily of the plant and equipment devoted to providing service. The utility plant of an electric power company consists primarily of generators, turbines, transformers, transmission lines, and distribution lines. A generator is a machine which converts steam or water power into electricity. A turbine is a bladed wheel driven by steam or water which turns the generator. A transformer transforms high voltage power to low voltage power or vice versa. Small transformers usually hang on utility poles, while larger ones are located at substations. Transmission lines are high voltage lines running from the power plants to substations which are distribution centers. Distribution lines run from substations to distribution transformers and to points of ultimate use.

The utility plant of a gas company includes the production plant, storage plant, and transmission and distribution systems. Manufactured gas is carried from the production plant into transmission lines or into storage tanks. The transmission lines also transmit the gas either from the production plant or storage tanks to the consuming area where the transmission line is connected with the distribution system which, in turn, distributes the gas to the place of consumption.

The fixed assets of an operating public utility company also include intangible assets, such as cost of franchises, patent rights, licenses, consents, privileges and other intangible items all of which are necessary or valuable in the rendition of the utility service. Florida Power Corporation, for instance, recently reported tangible property valued at \$47,200,820 and intangibles valued at \$35,724.

An electric utility plant may be either a hydro or a steam plant. A very large part of the electric energy produced in this country is generated by steam plants. A hydro plant utilizes water as its basic raw material, whereas a steam plant uses coal. The generating capacity of the Idaho Power Company, for example, is predominantly hydro, whereas Detroit Edison Company generates almost all of its electric requirements by steam.

Turbine Electric Light Company reported as follows:

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| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------|------------------|------------------|-------------------|
| Utility Plant..... | \$52,263,840 | \$45,617,870 | \$40,774,209 |

The Illinois Bell Telephone Company in a recent year reported its utility plant as follows:

| | |
|--|----------------|
| Telephone Plant | \$493,206,615 |
| Comprised of land and buildings, rights of way, poles, wire, cable, underground conduit, switchboards, telephones, office furniture, vehicles, tools, etc. | |
| Telephone Plant in Service | \$470,015,380 |
| Telephone Plant under Construction..... | 20,763,184 |
| Property Held for Future Telephone Use | 2,140,918 |
| Telephone Plant Acquisition Adjustment | <u>287,133</u> |

On the books of a public utility company the operating property is classified as: in service, under construction, leased to others, and held for future utility service. The regulatory commissions having jurisdiction over electric power, gas, and telephone companies require each company to state the value of its properties at the original cost to the person who first devoted such property to public utility service. Excess payments for such property must be recorded in a Plant Acquisition Adjustment account. This individual account may or may not be shown separately on the balance sheet. The balance of this adjustment account is amortized over a period of years designated by the utility commission and charged to operating expenses.

Industrial. The fixed assets of an industrial company consist of plant and equipment, as evidenced by the report of Straddlerocke Products Corporation:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|--------------------|--------------------|--------------------|
| Land | \$ 13,107,501 | \$ 13,216,605 | \$ 12,846,359 |
| Buildings, Machinery, and Equipment | <u>222,387,706</u> | <u>203,351,382</u> | <u>176,203,946</u> |
| | 235,495,207 | 216,567,987 | 189,050,305 |
| Less—Reserve for Depreciation..... | <u>89,363,425</u> | <u>82,252,328</u> | <u>73,912,430</u> |
| | \$146,131,782 | \$134,315,659 | \$115,137,875 |

Straddlerocke Products Corporation in reporting fixed assets indicated the investment in land as distinguished from the investment in buildings, machinery, and equipment. On the other hand some companies include land and buildings, machinery and equipment in one item. For example, Goodyear Tire & Rubber Company has reported as follows:

| | |
|---|--------------------|
| Land, buildings, machinery and equipment at cost..... | \$215,907,984 |
| Less: depreciation and amortization..... | <u>129,717,107</u> |
| | \$ 86,190,877 |

Investments. Investments represent fixed capital that has been invested on a more or less permanent basis but has been invested in non-operating assets, usually in securities of subsidiary companies or other companies.

Railroad. The non-operating assets of a railroad consist primarily of miscellaneous physical property; stocks, bonds, and notes of or advances to affiliated companies; and other investments. The investment in miscellaneous physical property includes mines, hotels, commercial power plants, and real estate not used for transportation. Security investments represent mostly stocks of other railroads that have been purchased and are held either for traffic purposes or for consolidation purposes. The Pennsylvania Railroad owns, through the Pennsylvania Company (a wholly owned subsidiary), approximately 174,404 shares of preferred stock and 593,100 shares of common stock in the Wabash Railway. The Chicago, Burlington & Quincy Railroad controls approximately 70 per cent of the outstanding stock of the Colorado & Southern system, with which it connects in Wyoming and at Denver. Through control of the 1,800-mile Colorado & Southern, the Burlington reaches the Gulf of Mexico at Galveston, touching Pueblo, Forth Worth, Dallas, and Houston en route.

Norrestern & West Railway reported the following non-operating fixed assets:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Miscellaneous Physical Property..... | \$22,966,335 | \$22,751,354 | \$18,906,209 |
| Less: Depreciation. | 2,978,069 | 2,228,329 | 1,936,593 |
| Net Miscellaneous Physical Property. | 19,988,266 | 20,523,025 | 16,969,616 |
| Sinking Funds..... | 261,707 | 14,291 | 196,490 |
| Special Reserve Funds..... | 4,192,402 | 11,724,668 | 13,317,234 |
| Investments in Affiliates. | 32,483,833 | 33,712,001 | 35,792,210 |
| Other Investments. | 8,199,877 | 11,157,014 | 11,670,275 |
| Reserve for Adjustments of Investments—Cr. | nil | 2,686,901 | 2,686,901 |
| Total Investments..... | \$65,126,085 | \$74,444,098 | \$75,258,924 |

The investments of Norrestern & West Railway in affiliates consisted of \$19,679,239 in wholly owned companies and \$12,804,594 in partially owned companies.

Public utility. The investment and fund account consists, as the name indicates, of investments and funds. Public utility companies invest capital in physical property which is not used in the utility service, in stocks and bonds of associated and non-associated companies, and in advances on a non-current basis to associated as well as to non-associated companies. Uniform accounting clas-

sifications require that separate and detailed accounts be maintained by the utility company to show these various kinds of property, investments, and advances. It is generally provided that investments in securities be recorded at cost. While ordinary market fluctuations are disregarded, the account may be written down, or off, if a permanent impairment in value should subsequently materialize. It is also usually provided that in the instance of securities with a fixed maturity which have been purchased at a discount or premium, the discount or premium may be amortized over the remaining life of the securities. Public utility companies also accumulate funds consisting of cash, securities, or other assets for special purposes: a sinking fund for the retirement of a debt, a depreciation fund for the purchase of assets which must be replaced, special funds for insurance, pensions, and so forth.

The investments of a public utility operating company are usually in the securities of subsidiary companies. Turbine Electric Light Company, for example, reported as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|--------------------|--------------------|--------------------|
| Other Physical Property | \$ 191,640 | \$ 186,976 | nil |
| Subsidiary Company Common Stock | 2,029,699 | 2,029,699 | \$2,029,699 |
| Treasury Common Stock | 117,026 | 117,026 | 117,026 |
| Other Investments | 93,048 | 93,048 | 289,033 |
| Total | <u>\$2,431,413</u> | <u>\$2,426,749</u> | <u>\$2,435,758</u> |

The investment in Subsidiary Power Company consisted of 60,669 shares of stock. The 2,490 shares of the common stock of Turbine Electric Light Company held by the company represented stock purchased in the open market in accordance with authority from the stockholders for the purpose of resale to the company's employees.

Industrial. Similarly, the investments of an industrial company are usually in the securities of subsidiary companies. Stradlerrocke Products Corporation, for example, reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|--------------------|--------------------|--------------------|
| Foreign Subsidiaries— | | | |
| Canadian | \$5,692,438 | \$6,045,558 | \$3,986,473 |
| English, Australian & Argentine | 3,944,717 | 3,953,451 | 3,964,633 |
| Continental European | 1 | 1 | 1 |
| | <u>9,637,156</u> | <u>9,999,010</u> | <u>7,951,107</u> |
| Less—Reserve | <u>3,503,935</u> | <u>3,503,935</u> | <u>3,503,935</u> |
| | 6,133,221 | 6,495,075 | 4,447,172 |
| Domestic Subsidiaries | 12,472 | 13,252 | 214,682 |
| Miscellaneous Investments | 2,568,028 | 2,333,893 | 2,046,551 |
| | <u>\$8,713,721</u> | <u>\$8,842,220</u> | <u>\$6,708,405</u> |

The company segregated its investments, reporting them geographically as \$3,944,717 in English, Australian, and Argentine subsidiaries and \$5,692,438 in Canadian subsidiaries. As a result of special conditions, the company placed an extremely nominal value on its investments in Continental European subsidiaries.

Although investments by railroad and public utility companies are usually in domestic subsidiaries, it is not uncommon for industrial companies with world-wide markets to have substantial investments in foreign subsidiaries. General Electric Company, directly or through subsidiaries, holds substantial interests in other large American and foreign electrical manufacturers and in important foreign utility companies. International Harvester Company owns plants and sales agencies in many foreign countries.

Fixed assets should be valued at original cost less depreciation and investments at cost or book value.

Miscellaneous assets. Miscellaneous assets represent those assets which cannot be properly classed as current or fixed assets. They consist primarily of deferred assets, intangible assets, and sinking funds.

Deferred assets. Deferred assets comprise all expenditures the benefits of which are not entirely obtained in the period in which they are made but which, in the regular course of operations, will be charged as expenses of subsequent periods. The usual deferred assets are prepaid expenses, organization expense, bond discount, and miscellaneous deferred charges.

Prepaid expenses are those that have a definite life, fixed by trade custom or the specific terms of a contract, at the end of which period all benefits will have accrued. They include such prepaid expenses as rents, taxes, and insurance premiums. Those expenses are paid in advance and constitute a charge at the date of payment. The full benefit, however, will not have been obtained until the end of the period for which the payment was made.¹

Organization expense is the cost of organizing a corporation. Inasmuch as such cost is met before any profits are available to offset them, they are shown for the initial period as an asset to prevent the appearance of a deficit in the balance sheet. It is customary, however, to write them off during the early years of the corporation's existence.

¹ Although some authorities have recommended the inclusion of prepaid expenses in current assets, the recommendation has encountered opposition. See American Institute of Accountants, *Accounting Research Bulletin No. 30*

Bond discount arises out of the fact that the corporation has sold its bonds for less than par value. The full par value of the bonds must be paid to the bondholders at maturity. In the meantime the annual interest payments and the discount constitute the cost of borrowing. Since the bond discount cannot be regarded as a loss for the year in which the bonds were sold, the bonds are usually introduced into the balance sheet as a liability at par and the bond discount set up among the assets as a deferred charge. The bond discount is gradually written off over the life of the bond.

Miscellaneous deferred charges represent lump-sum expenditures made for the purpose of building up or increasing present or future income; the period of future benefit is solely a matter of judgment. These expenditures include such charges as advertising, cost of remodeling plants, or removal to new plants. Because the benefits of such expenditures will be enjoyed in future periods, the expense is set up as a deferred charge and written off over a period of time.

Intangible assets. The usual intangible assets are patents, copyrights, trade marks, franchise rights, and goodwill. A patent is the exclusive right given by the federal government to the inventor to manufacture and sell the device covered by the patent for a period of seventeen years. A basic patent may be kept alive beyond the seventeen-year period by the discovery of important improvements, which may be patented. A patent may be considered to have value to a going concern only as it enables the company to earn more than the ordinary rate of return on the investment. A patent may become valueless before the expiration of the period, however, if superseded by subsequently patented improvements.

A copyright is the exclusive right granted to an author or his assignee by federal statutes to publish and print his literary or artistic work. It is granted for a period of twenty-eight years and may be renewed for an additional twenty-eight years upon application within one year of the expiration of the original copyright. The period during which the copyright has value to its owner, however, is usually less than its legal life.

Trade marks have value because they become associated in the public mind with such merit as to enable the owner to obtain more than a normal rate of profit from the sale of the product. The cash value of a trade mark was illustrated in the lease under which International Shoe Company leased the trade names "Dorothy Dodd" and "Queen Quality." Subsequently the company exer-

cised the option to purchase those trade names at a reported price of \$100,000.

Goodwill is the intangible asset most frequently found in industrial balance sheets. Basically goodwill is the capitalized value of earning power in excess of the normal return on the net investment in tangible property. It is not usual, however, for a company to show an asset of goodwill unless it has purchased another company and has paid for the company's goodwill. When goodwill is purchased it is customary to carry it at its cost value. The cost of goodwill purchased in the past, however, has no current analytical significance. It is merely an historical record of a past transaction and in no way is related to current earnings.

The values given to intangibles by corporations vary considerably. Patents and franchises are given a value of \$1 by General Electric Company and of \$5 by Westinghouse Electric Corporation. American Tobacco Company places a value of \$54,000,000 on brands, trade marks, and goodwill, while Liggett & Myers Tobacco Company places a value of only \$1 on them. The value of intangible assets is fundamentally a matter of opinion. Basically their value depends upon earnings, but accountancy provides no method of adjusting the valuation of intangibles in accordance with changes in earnings. For practical purposes, the investor disregards intangible assets in the analysis of financial statements by deducting them from the assets and from the net worth.

Sinking fund. A sinking fund consists of cash or securities that have been segregated to meet a fixed obligation. If the fund has been established under an agreement in a bond indenture, as is usually the case, it is not available for the payment of liabilities other than the bond issue for which it was established. Though usually classed among the miscellaneous assets, under certain circumstances it may be classed as a current asset. If, for example, the bond issue or a portion of it will become payable during the current period and the amount payable is included in the current liabilities, then the sinking fund or the required portion necessary to meet the current liability should be transferred to the current assets. In like fashion, if the fund includes deposits to be used for the payment of current interest, such deposits should be shown in the current assets.

Railroad. The miscellaneous assets reported by a railroad usually include deferred assets and unadjusted debits. The deferred

assets consist of working funds that represent insurance funds, advances made to officers and employees, which will be accounted for as expenditures are made, and other funds. Unadjusted debits are miscellaneous items which, for the most part, are very minor amounts and include prepaid expenses, discount on stocks and bonds issued, suspense items to be added later to some asset, or expense and contingent assets. The miscellaneous assets reported by Norrestern & West Railway were:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------------|--------------------|--------------------|--------------------|
| Deferred Assets: | | | |
| Working Fund Advances | \$ 162,784 | \$ 158,268 | \$ 154,690 |
| Insurance & Other Funds | 122,363 | 129,075 | 119,767 |
| Other Deferred Assets | 691,677 | 1,358,367 | 1,047,540 |
| Total Deferred Assets | <u>\$ 976,824</u> | <u>\$1,645,710</u> | <u>\$1,321,997</u> |
| Unadjusted Debits: | | | |
| Prepayments | \$ 326,768 | \$ 408,680 | \$ 304,992 |
| Discount—Funded Debt | 1,167,309 | 918,945 | 270,257 |
| Other Unadjusted Debits | 1,176,861 | 2,149,410 | 1,833,526 |
| Total Unadjusted Debits | <u>\$2,670,938</u> | <u>\$3,477,035</u> | <u>\$2,408,775</u> |

Public utility. The miscellaneous assets of a public utility company generally consist of deferred debits which include unamortized bond discount and expense, extraordinary property losses, preliminary survey and investigation charges, miscellaneous work in progress other than construction work, and capital stock discount and expense. Extraordinary property losses apply to property which has not been fully depreciated when abandoned. The Commission may authorize the company to show this as a deferred debit and write it off within a period of time by charges to surplus. Preliminary survey and investigation charges represent the expense of determining the feasibility of utility projects. If actual construction results, however, this amount is transferred to the appropriate asset account.

Turbine Electric Light Company reported the following miscellaneous assets:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------|------------------|------------------|-------------------|
| Deferred Debits | \$97,894 | \$120,463 | \$71,089 |

Deferred debits include work in progress which represents the practice in public utility companies of carrying forward, at the close of the year, expenditures on uncompleted projects and of showing the total cost of uncompleted plant additions as construction work in progress.

Industrial. The miscellaneous assets of an industrial company appear under many headings. Those reported by Straddlerocke Products Corporation were as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------------|--------------------|--------------------|--------------------|
| Prepaid and Deferred Items | \$2,215,903 | \$2,188,810 | \$1,852,151 |
| Goodwill | 1 | 1 | 1 |
| | <u>\$2,215,904</u> | <u>\$2,188,811</u> | <u>\$1,852,152</u> |

Current liabilities. Current liabilities represent creditors' claims that will mature within twelve months from the date of the balance sheet and for which no special provision for liquidation has been made. Current liabilities include notes and accounts payable and accruals.

Railroad. The current liabilities of a railroad consist primarily of taxes and accounts and wages payable. Norrestern & West Railway, for example, reported the following current and accrued liabilities:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|---------------------|---------------------|---------------------|
| Audited Accounts and Wages Payable | \$13,581,708 | \$17,222,892 | \$19,323,991 |
| Miscellaneous Accounts Payable | 4,301,761 | 4,926,401 | 5,760,526 |
| Interest Matured Unpaid | 658,816 | 648,621 | 631,506 |
| Dividends Matured Unpaid | 127,944 | 5,986,790 | 6,013,883 |
| Unmatured Interest Accrued | 5,866,063 | 5,367,389 | 2,386,801 |
| Unmatured Dividends Declared | 172,052 | 172,993 | 173,049 |
| Accrued Accounts Payable | 5,321,749 | 7,803,075 | 4,943,303 |
| Taxes Accrued | 27,059,389 | 38,634,066 | 31,363,201 |
| Other Current Liabilities | 1,083,480 | 1,240,614 | 1,115,591 |
| Total | <u>\$58,172,962</u> | <u>\$82,002,841</u> | <u>\$71,711,851</u> |

Tax liability was carried as an unadjusted credit prior to 1940; but in 1940 the Interstate Commerce Commission revised its classification and classed tax liability as a current liability. It is the largest single current liability in the above statements, representing approximately 47 per cent of total current liabilities.

Public utility. Turabine Electric Light Company reported the following current and accrued liabilities:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------------|--------------------|--------------------|--------------------|
| Accounts Payable | \$ 570,720 | \$ 735,513 | \$ 772,337 |
| Accrued Taxes | 2,102,674 | 1,991,583 | 1,977,275 |
| Accrued Interest | 215,628 | 217,054 | 218,478 |
| Customers' Deposits | 50,952 | 48,544 | 40,950 |
| Other | 52,874 | 54,593 | 64,041 |
| Total | <u>\$2,992,848</u> | <u>\$3,047,287</u> | <u>\$3,073,081</u> |

Some utilities, however, distinguish between current and accrued liabilities in their reports. The Atlantic City Gas Company, for example, made such a distinction in a recent report:

Current and Accrued Liabilities:

Current Liabilities:

| | |
|---|----------|
| Accounts payable. | \$25,327 |
| Payables to associated companies. | 3,004 |
| Customers' deposits | 41,785 |
| Miscellaneous current liabilities | 10,522 |

Accrued Liabilities:

| | |
|--|-----------------|
| Taxes accrued. | 3,216 |
| Interest accrued on other liabilities. | 2,689 |
| Miscellaneous accrued liabilities | 390 |
| | <u>\$ 6,295</u> |

Total. \$86,933

Industrial. The current liabilities as reported by Straddlerocke Products Corporation were as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|---------------------|---------------------|---------------------|
| Bank Loans | nil | nil | \$ 7,500,000 |
| Accounts Payable | \$31,474,228 | \$31,254,663 | 31,224,651 |
| Accrued Liabilities | 11,003,021 | 8,838,441 | 9,291,112 |
| Provision—Federal Income Taxes. | 22,150,000 | 16,200,000 | 15,000,000 |
| Less—U. S. Treasury Savings Notes. | (22,150,000) | nil | nil |
| Total | <u>\$42,477,249</u> | <u>\$56,293,104</u> | <u>\$63,015,763</u> |

Bank loans of \$7,500,000 in the previous year were retired last year.

Funded debt. Funded debt represents the long-term debt evidenced by securities. It includes bonds or notes due after one year from the balance-sheet date.

Railroad. For a railroad, the funded debt consists of equipment trust certificates, mortgage bonds, collateral trust notes, debenture bonds, and any other evidence of debt that will mature more than two years from the date of issue. The funded debt reported by Norrestern & West Railway was as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|----------------------|----------------------|----------------------|
| Funded Debt. | \$240,052,000 | \$242,102,000 | \$207,165,000 |
| Equipment Obligations and Conditional Sales Agreements | 95,141,225 | 87,682,000 | 60,288,400 |
| Total. | <u>\$335,193,225</u> | <u>\$329,784,000</u> | <u>\$267,453,400</u> |

Public utility. Turabine Electric Light Company reported funded debt as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------------|---------------------|---------------------|---------------------|
| 3% Debentures, due 1967. | \$ 2,660,000 | \$ 2,730,000 | \$ 2,800,000 |
| 3½% Debentures, due 1971. | 3,360,000 | 3,465,000 | 3,570,000 |
| 2½% Debentures, due 1982. | 12,000,000 | 12,000,000 | 12,000,000 |
| Total. | <u>\$18,020,000</u> | <u>\$18,195,000</u> | <u>\$18,370,000</u> |

Industrial. Funded debt was reported by Straddlerocke Products Corporation as follows:

INVESTMENT ANALYSIS

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|---------------------|---------------------|---------------------|
| 2 $\frac{3}{4}$ % Debentures, due 1970 | \$47,500,000 | \$48,500,000 | \$49,000,000 |
| 3% Debentures, due 1970..... | 30,000,000 | 30,000,000 | nil |
| 3 $\frac{1}{8}$ % Notes, due 1951-62..... | 3,000,000 | 3,000,000 | nil |
| Total..... | <u>\$80,500,000</u> | <u>\$81,500,000</u> | <u>\$49,000,000</u> |

Reserves. Reserves represent the allocation of surplus for specific purposes.

Public utility. Turabine Electric Light Company reported the following reserve:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Reserve for Depreciation of Utility Plant..... | \$11,458,250 | \$11,122,704 | \$10,841,926 |

Industrial. Reserves as reported by Straddlerocke Products Corporation were:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|---------------------|---------------------|---------------------|
| Possible Future Inventory Price Declines & Other Contingencies | nil | \$15,000,000 | \$15,000,000 |
| Prior Years' Taxes. | \$ 9,090,039 | 8,722,362 | 8,098,608 |
| Insurance and Other Reserves..... | 1,600,511 | 1,278,301 | 1,139,774 |
| Reserves. | <u>\$10,690,550</u> | <u>\$25,000,663</u> | <u>\$24,238,382</u> |

Miscellaneous liabilities. This item consists of liabilities that do not appropriately fall into any one of the other classes of liabilities.

Railroad. The miscellaneous liabilities of a railroad are reported as "deferred liabilities" and "unadjusted credits." Norrestern & West Railway, for example, reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|------------------------------------|---------------------|---------------------|---------------------|
| Deferred Liabilities: | | | |
| Liability for Provident Funds*.. . | \$13,754,254 | \$12,648,848 | \$11,555,907 |
| Other Deferred Liabilities.. . . . | 2,204,625 | 2,835,819 | 2,469,312 |
| Total... | <u>\$15,958,879</u> | <u>\$15,484,667</u> | <u>\$14,025,219</u> |
| Unadjusted Credits: | | | |
| Premium on Funded Debt*..... | \$ 2,954 | \$ 6,852 | \$ 12,727 |
| Other Unadjusted Credits. | 5,838,451 | 5,374,193 | 5,628,359 |
| Accrued Depreciation— | | | |
| Leased Property | 92,480 | 65,301 | 50,751 |
| Total... | <u>\$ 5,933,885</u> | <u>\$ 5,446,346</u> | <u>\$ 5,691,837</u> |

* Pension and welfare reserves.

Public utility. The miscellaneous liabilities reported by Turabine Electric Light Company were:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Contributions in Aid of Construction..... | \$117,786 | \$111,769 | \$106,844 |
| Deferred Credits..... | 34,880 | 28,422 | 29,351 |
| Total..... | <u>\$152,666</u> | <u>\$140,191</u> | <u>\$136,195</u> |

Deferred credits include unamortized premium on debt, customers' advances for construction, and amounts which cannot be entirely

cleared or disposed of until additional information has been received or which should be credited to income or surplus accounts in the future. Customers' advances for construction represent amounts which have been paid by customers for construction and which will be partially or wholly refunded to the customer. If retained by the utility company, however, the amount is transferred to the account "Contribution in Aid of Construction."

Industrial. Straddlerocke Products Corporation reported the following miscellaneous liabilities:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Minority Stockholders' Interest in Subsidiary Companies..... | \$327,067 | \$319,008 | \$339,767 |

The balance sheet of Straddlerocke Products Corporation is a consolidated statement of the parent company and its domestic subsidiary companies. Since the parent company does not own all of the outstanding stock of some of the subsidiaries, the subsidiary company stock outstanding in the hands of stockholders represents a minority interest. For this reason the parent company does not have an undivided interest in the net assets of the subsidiary company. The interest of the minority stockholders is reported on the liability side of the consolidated balance sheet and represents the aggregate of the par value of the minority stock and the minority interest's proportionate share of the surplus of the subsidiary company.

Capital stock. The capital stock account represents the stock that has been issued and is outstanding. A complete statement of capital stock has been reported by Nash-Kelvinator Corporation as:

Capital Stock, par value \$5.00 a share:

| | | |
|------------------|------------------|--------------|
| Authorized..... | 5,000,000 shares | |
| Issued..... | 4,375,600 shares | \$21,878,000 |
| In Treasury..... | 34,491 shares | 172,455 |
| Outstanding..... | 4,341,109 shares | \$21,705,545 |

The value shown is at either par value or stated value. The capital stock account should be credited with the amount which, under the statute, the company has designated as the par value. If the stock has no par value, the account should be credited with the amount which, under the statute, the company has designated as capital. The proportion of the consideration received for no par stock which is to be credited to capital stock depends upon the statutes of the particular jurisdiction. Some states require that a specified minimum amount of the consideration received be credited

to capital stock; other statutes require that the entire consideration received be so credited; and in still other jurisdictions, the statutes require that only the amount designated as such by the directors shall be credited to capital stock.

For analytical purposes treasury stock should be regarded as a deduction from the amount of capital stock issued. The Securities and Exchange Commission has ruled (Regulation S-X, Rule 3.16) that "Reacquired shares, if significant in amount, shall be shown separately as a reduction from capital shares, or from the total of capital shares and surplus, or from surplus, at either par or stated value, or cash, as circumstances require."

Railroad. The capital stock as reported by Norrestern & West Railway consisted of:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|------------------------------|------------------|------------------|-------------------|
| Preferred Stock (\$100 par)* | \$19,662,940 | \$19,770,440 | \$ 19,776,940 |
| Shares Outstanding | 196,629 | 197,704 | 197,769 |
| Common Stock (\$25 par) | \$195,427,463 | \$195,427,463 | \$195,177,463 |
| Shares Outstanding | 7,817,098 | 7,817,098 | 7,807,098 |

* $3\frac{1}{2}\%$ cumulative convertible preferred

Public Utility. Turabine Electric Light Company reported the following capital stock:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------------|------------------|------------------|-------------------|
| 3.90% Preferred (\$50 par) | \$8,000,000 | nil | nil |
| Shares Outstanding | 160,000 | nil | nil |
| Common Stock (\$25 par) | \$21,100,000 | \$21,000,000 | \$21,000,000 |
| Shares Outstanding | 844,000 | 840,000 | 840,000 |

Industrial. The capital stock as reported by Straddlerocke Products Corporation was as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------------|------------------|------------------|-------------------|
| Common Stock (no par) | \$52,585,597 | \$51,904,703 | \$51,777,022 |
| Shares Outstanding | 6,313,212 | 6,283,587 | 6,277,912 |

Surplus. Surplus is the excess of the aggregate value of the assets over the stated value of the liabilities, reserves, and capital stock. It is the item that makes the balance sheet a balanced sheet.

Railroad. The surplus as reported by Norrestern & West Railway was as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Premium on Capital Stock | \$ 2,424,843 | \$ 2,424,843 | \$ 2,301,093 |
| Surplus: | | | |
| Unearned Surplus | 328,920 | 307,520 | 297,249 |
| Earned Surplus—Appropriated | 10,683,086 | 9,163,812 | 17,640,795 |
| Earned Surplus—Unappropriated | 153,493,740 | 157,807,369 | 142,804,598 |
| Total | \$166,930,589 | \$169,703,544 | \$163,643,735 |

Public utility. Turabine Electric Light Company reported surplus as:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------|--------------------|--------------------|--------------------|
| Surplus: | | | |
| Earned | \$6,200,064 | \$5,790,836 | \$3,299,178 |
| Capital | 5,000 | nil | nil |
| Total | <u>\$6,205,064</u> | <u>\$5,790,836</u> | <u>\$3,299,178</u> |

Industrial. The surplus of Straddlerocke Products Corporation consisted of:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------------|------------------|------------------|-------------------|
| Earned Surplus | \$137,022,884 | \$102,624,193 | \$88,571,896 |

Review Questions

1. Define a balance sheet.
2. Name the divisions of a balance sheet.
3. Discuss the relative significance of assets on the one hand and of liabilities and net worth on the other.
4. Explain the significance of the balance sheet as an analytical tool.
5. Explain the meaning, content, and basis of valuation of the current assets.
6. Comment on the following statement of inventories reported as a current asset by a tobacco company:

Inventories at cost:

| | |
|---------------------------------|---------------------|
| Leaf tobacco | \$75,964,250 |
| Manufactured stock | 7,628,195 |
| Revenue stamps | 480,557 |
| Materials and supplies | <u>3,123,402</u> |
| Total | <u>\$87,196,404</u> |

7. Define fixed capital and indicate the assets representing fixed capital.
8. Distinguish between the fixed assets of a railroad, of a public utility, and of an industrial company.
9. Comment on the following general expenditures made by a railroad:

Roadway and structures—

| | |
|---|---------------------|
| Additional main tracks | \$ 59,460 |
| Additional yard tracks, sidings and industry tracks. | 1,974,816 |
| Increased weight of rails and other track material | 3,080,769 |
| Bridges, trestles and culverts | 837,617 |
| Grade and line changes, widening cuts and fills, and ballasting | 2,180,293 |
| Section houses, other roadway buildings, fences and roadway | |
| machines | 335,332 |
| Fuel and water stations and appurtenances. | 465,558 |
| Station and office buildings and other station facilities | 785,406 |
| Signals and telegraph and telephone lines | 2,253,313 |
| Shops and enginehouses, power plants, and machinery and | |
| tools | 2,028,543 |
| Elimination of grade crossings. | 129,744 |
| Other roadway and structures projects. | <u>26,752</u> |
| | <u>\$14,157,603</u> |

Equipment—

| | |
|---|---------------------|
| Additional equipment. | \$24,695,285 |
| Improvements to existing equipment. | 862,523 |
| | <u>\$25,557,808</u> |
| Total gross expenditures | \$39,715,411 |

10. Comment on the following statement of telephone plant of a telephone company:

| | |
|---|----------------|
| Telephone Plant | \$424,710,442 |
| Telephone plant in service | \$416,804,811 |
| Telephone plant under construction | 5,775,235 |
| Property held for future use. | 1,843,262 |
| Telephone plant acquisition adjustment. | <u>287,134</u> |

11. Indicate the nature of the investment account of a railroad, a public utility, and an industrial company.

12. Explain the basis of valuation of fixed capital assets.

13. Define miscellaneous assets and indicate the kinds of such assets.

14. Distinguish between deferred assets and unadjusted debits in a railroad balance sheet.

15. Indicate the miscellaneous assets of a public utility and of an industrial company.

16. Define current liabilities and indicate their nature.

17. Comment on the following statement of accruals reported as a current liability:

| | |
|------------------------|----------------|
| Accruals: | |
| Payrolls. | \$ 114,695 |
| Taxes. | 4,937,829 |
| Interest. | 274,272 |
| Advertising. | 116,613 |
| Miscellaneous. | <u>215,614</u> |
| Total. | \$5,659,023 |

18. Comment on the following statement of current and accrued liabilities as reported by a public utility company:

Current and Accrued Liabilities:

Current Liabilities:

| | |
|--|-----------------|
| Accounts payable. | \$25,327 |
| Payables to associated companies. | 3,004 |
| Customers' deposits. | 41,785 |
| Miscellaneous current liabilities. | <u>10,522</u> |
| | <u>\$80,638</u> |

Accrued Liabilities:

| | |
|--|----------------|
| Taxes accrued. | 3,216 |
| Interest accrued on other liabilities. | 2,689 |
| Miscellaneous accrued liabilities. | <u>390</u> |
| | <u>\$6,295</u> |

Total. \$86,933

19. Define funded debt.

20. Define a reserve.

21. Indicate the nature of miscellaneous liabilities.

22. Define capital stock and surplus.

Assignment

(a) Construct the balance sheet from the following data:

(1) RAILROAD

| | |
|-------------------------------------|----------------|
| Surplus | \$ 309,346,000 |
| Investments | 1,115,313,000 |
| Unadjusted Debits | 7,573,000 |
| Deferred Liabilities | 12,904,000 |
| Current Assets | 181,357,000 |
| Unadjusted Credits | 171,658,000 |
| Current Liabilities | 79,956,000 |
| Deferred Assets | 17,276,000 |
| Capital Stock | 321,894,000 |
| Miscellaneous Liabilities | 57,207,000 |
| Funded Debt. | 368,554,000 |

(2) PUBLIC UTILITY

| | |
|---|---------------|
| Reserves | \$171,433,000 |
| Property, Plant and Equipment | 746,378,000 |
| Current Liabilities | 48,397,000 |
| Deferred Charges. | 27,998,000 |
| Funded Debt | 343,882,000 |
| Earned Surplus | 48,574,000 |
| Current Assets | 133,045,000 |
| Capital Stock | 317,967,000 |
| Investments | 11,019,000 |
| Miscellaneous Assets | 14,070,000 |
| Miscellaneous Liabilities | 2,257,000 |

(3) INDUSTRIAL

| | |
|---|--------------|
| Current Liabilities | \$22,926,000 |
| Deferred Charges | 2,165,000 |
| Reserves | 24,702,000 |
| Current Assets | 89,419,000 |
| Capital Stock | 64,875,000 |
| Property, Plant and Equipment*. | 66,536,000 |
| Surplus | 39,795,000 |
| Miscellaneous Assets | 4,816,000 |
| Miscellaneous Liabilities | 10,638,000 |

* Net after reserve for depreciation.

- (b) Indicate the account into which each of the following items would fall in a railroad balance sheet: sinking funds, advances, prepaid expenses, equipment, insurance funds, bond discount, general expenditures, rents receivable, miscellaneous funds, and improvements on leased lines.
- (c) Indicate the account into which each of the following items would fall in a public utility balance sheet: generators, extraordinary property losses, turbines, preliminary survey and investigation charges, transformers, unamortized bond discount and expense, transmission lines, franchises, distribution lines.
- (d) Indicate the account into which each of the following items would fall in an industrial balance sheet: accounts payable, U. S. Government securities, minority interest in subsidiaries, investment in subsidiary companies, provision for Federal taxes on income, buildings and equipment, prepaid expenses, accrued liabilities, notes and accounts receivable, goodwill, inventory.

CHAPTER SIXTEEN

SURPLUS AND RESERVES

Surplus. The statement of surplus as reported by the company reveals the surplus with which the company began the fiscal year, the necessary year-end adjustments of surplus, and the surplus at the close of the fiscal year.

Net worth. The stockholders' interest in a company is referred to as the net worth. It is represented by the excess of total assets over total liabilities. For instance, the net worth of the Straddlerocke Products Corporation was \$189,608,481 computed as follows:

| | | |
|------------------------|--------------|----------------------|
| Total Assets | | \$323,603,347 |
| Total Liabilities: | | |
| Current..... | \$42,477,249 | |
| Funded Debt..... | 80,500,000 | |
| Minority Interest..... | 327,067 | |
| Reserves..... | 10,690,550 | 133,994,866 |
| Net Worth..... | | <u>\$189,608,481</u> |

Net worth, in turn, consists of capital stock and surplus. For example, the net worth of Straddlerocke Products Corporation consisted of:

| | |
|-------------------|----------------------|
| Common Stock..... | \$ 52,585,597 |
| Surplus..... | <u>137,022,884</u> |
| Net Worth..... | <u>\$189,608,481</u> |

Surplus, therefore, is the excess of net worth over capital stock. Inasmuch as surplus is a residual account, it is correct only to the extent that assets and liabilities have been correctly stated and capital stock has been stated at its par or stated value.

Classes of surplus. Surplus may be classed as earned surplus or capital surplus. Straddlerocke Products Corporation reported surplus as:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------------|------------------|------------------|-------------------|
| Earned Surplus | \$137,022,884 | \$102,624,193 | \$88,571,896 |

On the other hand, Turabine Electric Light Company reported surplus as:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------|------------------|------------------|-------------------|
| Earned Surplus..... | \$6,200,064 | \$5,790,836 | \$3,299,178 |
| Capital Surplus. | 5,000 | nil | nil |
| Total | \$6,205,064 | \$5,790,836 | \$3,299,178 |

Statements filed with the Securities and Exchange Commission must classify surplus, where practicable and capable of determination, as (a) paid-in surplus, (b) surplus arising from revaluation of assets, (c) other capital surplus, and (d) earned surplus.

Earned surplus. Earned surplus arises from earnings which the management, as a matter of policy, has retained and accumulated. Swift & Co., for example, recently changed the designation from "Earned Surplus" to "Accumulated Earnings." Earned surplus has been defined by the Committee on Terminology of the American Institute of Accountants as "the balance of net profits, income, and gains of a corporation from the date of incorporation (or from the date when a deficit was absorbed by a charge against the capital surplus created by a reduction of the par or stated value of the capital stock or otherwise) after deducting losses and after deducting distributions to stockholders and transfers to capital-stock accounts when made out of such surplus." It constitutes a measure of the success of the company. The earned surplus as reported by Straddlerocke Products Corporation increased from \$88,571,896 two years ago to \$137,022,884 this year.

Earned surplus, in turn, may be classed as appropriated and unappropriated. For example, Standard Oil Company of New Jersey in a recent report showed surplus as follows:

| | |
|--------------------------|---------------|
| Surplus: | |
| Earned Surplus: | |
| Appropriated. | \$ 5,425,985 |
| Unappropriated. | 684,935,642 |
| Capital Surplus. | 70,946,651 |
| Total Surplus. | \$761,308,278 |

Appropriated surplus represents that part of earned surplus which has been appropriated or reserved for some particular purpose and therefore is not available as unappropriated or free surplus for the payment of dividends or the absorption of losses.

Capital surplus. Capital surplus arises from sources other than earnings. The usual sources of capital surplus are (a) paid-in surplus, (b) purchase of assets for less than book value, (c) reappraisal of assets at a higher value, (d) reduction in par or stated value of

capital stock, (e) purchase by a company of its own stock below par or stated value, (f) the sale of treasury stock for more than its cost, or (g) the retirement of debt at less than book value.

Capital surplus known as paid-in surplus represents either capital paid in by the stockholders in excess of the par or stated value of the stock, or initial surplus at the formation of a new corporation through merger, or surplus arising from the sale of treasury stock for more than its cost price. Continental Can Company, for example, sold 188,780 shares of common stock at \$60 a share. Inasmuch as the par value of the stock was \$20 a share, the company credited capital stock with \$20 a share or an aggregate of \$3,775,600, and capital surplus with \$40 a share or a total of \$7,551,200. Capital surplus appeared for the first time this year in the report of Turbine Electric Light Company as the result of the sale of 200 shares of \$100 par value stock by a subsidiary company at \$125 a share. The excess of the sales price (\$25,000) over the par value (\$20,000) represented capital surplus (\$5,000).

Capital surplus may arise from the purchase of assets for less than book value. The Texas Company, for instance, acquired the assets of Selby Oil and Gas Company and several other companies for approximately 296,000 shares of the capital stock of the Texas Company with an aggregate par value of \$7,400,000. The value assigned to the properties acquired was \$13,868,007, or \$6,468,007 in excess of the par value of the stock given in payment. As a result, the excess of the book value of the assets over the par value of the stock, amounting to \$6,468,007, was credited to capital surplus.

If any of the assets are reappraised at a higher value than the book value and the current book value is thereby written up, the surplus arising through the increase in value is classed as capital surplus. Du Pont & Company, for example, owns a substantial number of shares of General Motors Corporation common stock. The company has followed the practice of adjusting the book value of this stock in March of each year to correspond to the equity value of the stock as indicated by the consolidated balance sheet of General Motors Corporation for December 31 of the preceding year. The amount by which the investment is written up is credited to capital surplus.

Capital surplus may be created by writing down the par or stated value of the capital stock. The Public Service Electric and Gas Company of New Jersey, with the approval of the Securities and

Exchange Commission, reduced the stated value of its common stock by \$50,000,000 and created a capital surplus of \$50,000,000.

When treasury stock is sold for more than its cost price, the excess of the sale price over the cost price is credited to capital surplus.

Use of surplus. Surplus is used usually to absorb losses or deficits, to provide for specific capital uses, or to pay dividends. The particular use made of surplus, however, depends upon the nature of the surplus. Earned surplus arises from earnings and is not a part of the contributed capital. It may be used to absorb losses, distributed as dividends, or reserved for corporate purposes. Capital surplus, on the other hand, is by its very nature part of invested or permanent capital. As such it is not usually available for distribution as dividends or for the setting up of reserves. It is available only for transfer to the capital stock account by the declaration of a stock dividend. The stock dividend increases the capital stock account by transferring to it some of the contributed capital which, at the time of original record, was withheld from it.

On the other hand, capital surplus may be transferred to capital stock account by increasing the stated value of no par value capital stock. For example, National Sugar Refining Company in a recent year increased the capital stock account from \$15,000,000 to \$24,000,000 by increasing the stated value of the capital stock from \$25 to \$40 a share, and thereby eliminated the capital surplus and reduced earned surplus to \$4,250,000.

Surplus adjustments. The financial statement usually indicates the year-end adjustments of the surplus. Those adjustments (debit or credit) may be divided into two classes: (a) adjustments that relate to the current accounting period and (b) adjustments that relate to preceding accounting periods.

Current period adjustments. The usual adjustments relating to the current accounting period, and representing debits to surplus, are the payment of dividends, appropriations for surplus reserves, and the elimination of intangible assets. Dividends declared by the board of directors represent a withdrawal of some of the stockholders' interest rather than a loss to the company. The Cudahy Packing Company, for example, reported earned surplus on October 28 of a recent year as:

| | |
|-----------------------------------|--------------------|
| Balance at beginning of year..... | \$6,796,348 |
| Net Income for year..... | 3,190,061 |
| | <u>\$9,986,409</u> |

Deduct—

| | |
|---|--------------------|
| Unamortization portion of debt discount and expense and premium on bonds and debentures redeemed during year | 202,645 |
| | <u>\$9,783,764</u> |

Dividends paid in cash on—

| | | |
|------------------------------|----------------|---------|
| 7% preferred stock | \$457,835 | |
| 6% preferred stock | 120,000 | |
| Common stock | <u>140,247</u> | 718,082 |

| | |
|--------------------------------|--------------------|
| Surplus, end of year | <u>\$9,065,682</u> |
|--------------------------------|--------------------|

The net income of \$3,190,061 for the year became part of surplus from which the cash dividend of \$718,082 was distributed.

When Sun Oil Company declared a 10 per cent stock dividend, \$9,745,149 was transferred from earned surplus to capital stock account:

| | |
|--|-------------------|
| Earned Surplus—January 1 | \$27,062,503 |
| Less Adjustments (net) | <u>65,330</u> |
| | \$26,997,173 |
| Net Income | <u>13,350,217</u> |
| | \$40,347,390 |
| Less Cash Dividends | <u>3,257,748</u> |
| Surplus before Application of Stock Dividend | \$37,089,642 |
| Less Stock Dividend on Common Stock | <u>9,745,149</u> |
| Earned Surplus—December 31 | \$27,344,493 |

An appropriation of surplus as a reserve places part of the surplus under a new balance-sheet title. For example, International Business Machines Corporation in one year transferred \$2,000,000 from earned surplus to “reserve for contingencies.” This action removed \$2,000,000 from surplus and set it up as a new account.

The elimination of an intangible asset, such as goodwill, also reduces the surplus. For example, Socony-Vacuum Oil Company reduced the par value of its stock from \$25 to \$15 a share, or by \$317,084,620, which was transferred to capital surplus, thus increasing capital surplus to \$342,737,434. Goodwill of \$228,123,581 was then written off by a charge to capital surplus.

Surplus may be reduced by an increase in the stated value of non-par value stock. For example, International Harvester Company increased the stated value of its stock from \$25 to \$32 a share which resulted in a charge of \$90,548,444 to surplus.

Illustrative of many kinds of surplus adjustments was the statement of earned surplus reported by The Borden Company:

| | |
|--|-------------------|
| Balance at beginning of year | \$32,515,806 |
| Net Income | <u>19,581,006</u> |

Transfers from reserves:

Provided out of income, 1941-45:

For wartime contingencies and transition to peacetime economy 10,732,912

For deferred repairs and maintenance.. . . . 3,200,000

Provided out of earned surplus, 1939:

For adjustment of foreign assets to U. S. dollar equivalent . . . 460,938

For purchase of employees' deferred retirement annuities. . . . 300,000

\$66,790,662

Deduct:

Dividends paid \$ 9,508,900

Write-off of goodwill purchased during year 519,839

Appropriations to reserves:

For possible inventory price declines. 5,000,000

For losses on unusual property disposals 5,000,000

For contingencies 383,939

\$20,412,678

Balance at end of year.. . . . \$46,377,984

The Securities and Exchange Commission has prescribed that the following be treated as direct charges against earned surplus: appropriations for future price declines in inventory, reserves for general contingencies, and reserves providing for the excess of replacement cost over actual cost of plant facilities or for the excess of current construction over an estimated normal or reasonable level of costs. It has ruled also that reserves for general contingencies no longer required be credited directly to earned surplus.

Preceding-period adjustments. Adjustments relating to preceding accounting periods usually concern income and expense items and generally refer to insufficient or excessive provisions in past periods for such items as taxes, bad debts, and depreciation. If in the current year, for example, it is determined that the provision for taxes, charged against a prior year's earnings, was inadequate, the deficiency is not a proper charge against current earnings because the charge applies not to the current year but to a prior year. It should be charged against earned surplus in the current year. In like manner, adjustments of this class may result in a credit to earned surplus. Du Pont & Company, for example, in a recent year revised the provision for taxes on income in prior years and transferred \$323,130 in excess of requirements to surplus. The liability of International Harvester Company for federal income taxes for a period of years was finally determined, and the excess of the provision made in those years over the requirements, amounting to \$4,573,293, was then transferred to earned surplus.

International Harvester Company follows the policy of charging

off receivables that are over five years old. The company collected \$4,928,843 in one year, however, on receivables that had been charged off. After crediting those collections to the "reserve for losses on receivables," the reserve applicable to receivables of prior years was believed to be in excess of requirements and, accordingly, \$3,500,000 was transferred from the reserve to earned surplus.

The scrutiny of the earned surplus account by the investor is primarily to detect any substantial surplus adjustments that may have a significance as to the financial condition of the company. A company may be overstating its earnings by charging to surplus losses which should be charged to current income. In like fashion, the creation of valuation reserves out of capital surplus in order to provide for (a) the downward revaluation of fixed assets, (b) the retirement and abandonment of property, or (c) the amortization or write-off of bond discount has the effect of (1) understating future operating charges to income for depreciation, bond discount expense and other operating costs and thereby overstating the income of subsequent years and (2) overstating the earned surplus and understating the capital surplus. The Securities and Exchange Commission has taken the position that the amount of the downward revaluation of fixed property should be charged against earned surplus. This is based on the theory that the decrease in value represents an accumulation of depreciation which should have been charged to current income in previous years. The write-down should be charged to capital surplus only to the extent that the earned surplus is unable to absorb the full amount of the write-down.

Railroad. The corporate surplus reported by the Norrestern & West Railway was:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------------|------------------|------------------|-------------------|
| Earned Surplus: | | | |
| Unappropriated..... | \$153,493,740 | \$157,897,369 | \$142,804,598 |
| Appropriated..... | 10,683,086 | 9,163,812 | 17,640,795 |
| Premium on Capital Stock..... | 2,424,843 | 2,424,843 | 2,301,093 |
| Unearned Surplus..... | 328,920 | 307,520 | 297,249 |
| Total..... | \$166,930,589 | \$169,703,544 | \$163,043,735 |

Earned surplus consists of unappropriated and appropriated surplus. Unappropriated surplus represents the surplus available for distribution as dividends. Appropriated surplus is surplus that has been withdrawn from earned surplus and appropriated or reserved for corporate purposes. Premium on capital stock includes the excess of the actual cash value (at the time of the sale of the

stock) of the consideration received over the amounts recorded in the capital stock account for par value stock plus accrued dividends, if any, and subsequent assessments against stockholders representing payments required in excess of par or other amounts recorded in the capital stock account. Unearned surplus represents surplus arising from donations by the stockholders, amounts representing reduction of the par or recorded value of the capital stock, gains from the acquisition, retirement, or resale of reacquired shares, and long-term debt of the company forgiven by stockholders.

Analysis of the unappropriated surplus account of the company revealed the following changes:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|----------------------|----------------------|----------------------|
| Surplus: beginning | \$157,807,369 | \$142,804,598 | \$140,068,414 |
| Add: | | | |
| Net Income for year | 11,357,897 | 29,791,435 | 34,346,223 |
| Profit on sale of investment | 3,611,320 | nil | nil |
| Excess of reserve for adjustment of investment in securities over loss on sale of investment | 375,750 | nil | nil |
| Other surplus credits | 282,629 | 915,599 | 65,192 |
| Transfer from appropriated earned surplus | nil | 9,569,830 | 23,461 |
| | <u>\$173,434,965</u> | <u>\$183,081,462</u> | <u>\$174,503,290</u> |
| Deduct: | | | |
| Dividends on stock | \$ 18,278,535 | \$ 24,128,259 | \$ 28,209,766 |
| Transfer to appropriated earned surplus | 1,519,274 | 1,092,848 | 3,488,926 |
| Miscellaneous debits | 143,416 | 52,986 | nil |
| | <u>\$ 19,941,225</u> | <u>\$ 25,274,093</u> | <u>\$ 31,698,692</u> |
| Surplus: end | \$153,493,740 | \$157,807,369 | \$142,804,598 |

The company began this year with an unappropriated earned surplus of \$157,807,369, to which was added \$11,357,897 net income for the year, \$3,611,320 profit on sale of the company's investment in a subsidiary, \$375,750 representing the excess of reserve for adjustment of investment in securities over the loss on the sale of stock in another subsidiary, and \$282,629 in miscellaneous credits. The unappropriated earned surplus of \$173,434,965 was charged, however, with dividends on the company's stock of \$18,278,535, an appropriation of \$1,519,274 for sinking funds and debt retirement which was transferred to appropriated earned surplus, and \$143,416 in miscellaneous debits. As a result, the unappropriated earned surplus at the end of this year was \$153,493,740.

Public utility. The surplus reported in public utility balance sheets is usually relatively small, owing to the restricted earning

power of the companies and to their unwillingness to disclose what might be regarded as excessive earning power. Turabine Electric Light Company reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------|--------------------|--------------------|--------------------|
| Earned Surplus | \$6,200,064 | \$5,790,836 | \$3,299,178 |
| Capital Surplus | 5,000 | nil | nil |
| Total | <u>\$6,205,064</u> | <u>\$5,790,836</u> | <u>\$3,299,178</u> |

Analysis of earned surplus revealed the following changes:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|--------------------|--------------------|--------------------|
| Surplus: beginning | \$5,790,836 | \$3,299,178 | \$3,156,050 |
| Add: | | | |
| Net income for year | 2,475,861 | 2,326,311 | 2,436,764 |
| Net premium on bond | nil | nil | 11,061 |
| Earned surplus of subsidiary acquired | 70,793 | nil | nil |
| Miscellaneous credit | nil | 2,490,175 | 1,005 |
| Adjustment of depreciation accrual | 237,311 | nil | nil |
| | <u>\$8,574,801</u> | <u>\$8,115,664</u> | <u>\$5,604,880</u> |
| Deduct: | | | |
| Dividends on stock | \$2,371,386 | \$2,303,332 | \$2,303,285 |
| Miscellaneous debit | 3,351 | 21,496 | 2,417 |
| | <u>\$2,374,737</u> | <u>\$2,324,828</u> | <u>\$2,305,702</u> |
| Surplus: end | \$6,200,064 | \$5,790,836 | \$3,299,178 |

The earned surplus of \$5,790,836 with which the company began the year was increased by \$2,475,861 net income for the year, \$70,793 representing the earned surplus acquired by the merger of a subsidiary company, and \$237,311 resulting from adjustment of the depreciation accrued. The earned surplus of \$8,574,801 was reduced, however, by dividends on the company's stock of \$2,371,386 and miscellaneous charges of \$3,351, leaving a surplus at the end of the year of \$6,200,064.

Industrial. The surplus as reported by Straddlerocke Products Corporation consisted of:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------|------------------|------------------|-------------------|
| Earned Surplus | \$137,022,884 | \$102,624,193 | \$ 88,571,896 |

Analysis of earned surplus revealed the following changes:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------------|----------------------|----------------------|----------------------|
| Surplus: beginning | \$102,624,193 | \$ 88,571,896 | \$ 76,707,772 |
| Add: | | | |
| Net income for year | 33,258,853 | 25,358,546 | 23,159,391 |
| Transfer of reserve | 15,000,000 | nil | nil |
| | <u>\$150,883,046</u> | <u>\$113,930,442</u> | <u>\$ 99,867,163</u> |
| Deduct: | | | |
| Dividends on stock | 13,860,162 | 11,306,249 | 11,295,267 |
| Surplus: end | <u>\$137,022,884</u> | <u>\$102,624,193</u> | <u>\$ 88,571,896</u> |

The surplus with which the company began this year of \$102,-624,193 was increased by \$33,258,853 of net income and by \$15,-000,000 representing reserves for possible future inventory price declines and other contingencies transferred to earned surplus. The resulting surplus of \$150,883,046 was reduced by dividends on the company's stock of \$13,860,162, leaving a surplus at the end of the year of \$137,022,884.

Reserves. A reserve is an allocation of surplus made for a specific purpose. The appropriation of a reserve recognizes the existence of the need for which the appropriation is made and at the same time reduces the surplus available for dividends. Such reservation may arise out of three possible situations: legal, financial, or voluntary. The establishment of a reserve may be required by a bond indenture or by the preferred stock provisions. Under some bond indentures the issuer is required to establish a reserve for the retirement of the bond. In some companies a similar reserve is required for the retirement of the preferred stock. A reserve may be set up also in accordance with the usual financial policy to provide for such cash expenses as taxes and insurance or for non-cash expenses as depreciation and doubtful accounts. In accordance with the fiscal policy the management may voluntarily establish a reserve for specific corporate purposes, such as expansion of plant or plant rehabilitation, or for general corporate purposes, such as a reserve for contingencies.

Creation of reserve. The creation of a reserve reduces surplus available for dividends. For example, Straddlerocke Products Corporation had reserves aggregating \$106,879,852 and consisting of reserves for:

| | |
|---|----------------------|
| Doubtful notes and accounts. | \$ 3,321,942 |
| Foreign investments and advances. | 3,503,935 |
| Depreciation of property, plant, etc. | 89,363,425 |
| Insurance. | 1,600,511 |
| Prior years' federal and state taxes. | 9,090,039 |
| Total reserves. | <u>\$106,879,852</u> |

If these reserves had not been provided, the earned surplus on the balance sheet would have been \$243,902,736 instead of \$137,022,-884.

A reserve may be created either by a charge to surplus or by a charge to income. International Harvester Company, for example, had a reserve for "post-war rehabilitation, obsolescence, and contingencies" and a reserve for "development and extensions." The

former reserve represented provision for the cost of reconverting and rehabilitating plants and other properties, for unusual obsolescence, and for other special costs that might be necessary for postwar operations. The company increased the reserve from \$20,000,000 to \$30,000,000 by transferring \$10,000,000 from surplus. The latter reserve represented provision for extraordinary programs involving large expenditures periodically required for tooling and pattern equipment. This reserve was increased from \$5,915,949 to \$10,915,949 by two annual charges to cost of goods sold of \$2,500,000 each.

Reserve v. fund. A reserve differs from a fund in two respects: (a) a reserve is a liability account, a valuation account, or a part of the proprietary equity, whereas a fund is an asset; and (b) a reserve is created either by a charge to surplus or to income, whereas a fund represents specifically segregated assets. The establishment of a reserve simply retains earnings in the business by reducing the surplus, thus making the amount of the reserve unavailable for distribution as dividends to the stockholders, but it does not assure the availability of cash when the need for which the reserve was established arises.

A fund, on the other hand, is established to make definite provision that cash or its equivalent will be on hand to take care of the need as it arises. In the following situation the establishment of a fund by the segregation of \$20,000,000 cash sets this amount of cash aside for the purpose for which the fund is created:

| PRIOR TO ESTABLISHMENT OF FUND | | | |
|--------------------------------|----------------------|-----------------------|----------------------|
| Cash..... | \$ 51,485,640 | Liabilities | \$248,843,157 |
| Other Assets..... | 483,933,746 | Capital Stock..... | 169,828,360 |
| | | Surplus.. . . . | 116,747,869 |
| Total..... | <u>\$535,419,386</u> | Total..... | <u>\$535,419,386</u> |
| AFTER ESTABLISHMENT OF FUND | | | |
| Cash..... | \$ 31,485,640 | Liabilities..... | \$248,843,157 |
| Fund..... | 20,000,000 | Capital Stock..... | 169,828,360 |
| Other Assets.... | 483,933,746 | Surplus..... | 116,747,869 |
| Total..... | <u>\$535,419,386</u> | Total... | <u>\$535,419,386</u> |

The surplus available for distribution, however, is still \$116,747,869. In order to prevent an unwise depletion of working capital, it is customary to establish a fund reserve by an equal appropriation of surplus which cannot be available for distribution as dividends.

AFTER ESTABLISHMENT OF FUND AND RESERVE

| | | | |
|-----------------------|----------------------|-------------------------|----------------------|
| Cash. | \$ 31,485,640 | Liabilities | \$248,843,157 |
| Reserve Fund. | 20,000,000 | Capital Stock | 169,828,360 |
| Other Assets. | 483,933,746 | Reserve. | 20,000,000 |
| | | Surplus. | 96,747,869 |
| Total. | <u>\$535,419,386</u> | Total. | <u>\$535,419,386</u> |

As a result, the fund of \$20,000,000 is protected by the fund reserve of \$20,000,000 and the surplus available for distribution is reduced to \$96,747,869. The creation of a reserve and a fund, therefore, protects the working capital position of the company by restricting cash dividend payments and prevents the use of the contents of the fund for any purpose other than that for which the fund was intended.

A fund usually consists of cash or securities and is generally set aside to meet such anticipated requirements as a sinking fund for the retirement of funded debt or preferred stock, as insurance funds under a self-insurance plan, or as pension funds. American Sugar Refining Company in a recent year reported as an asset "Pension Fund" of \$5,304,793 and as a liability "Pension Reserve" of \$5,304,793. The Pension Fund consisted of:

| | |
|--|----------------|
| Cash. | \$2,047,143 |
| U. S. Government securities. | 2,625,000 |
| Company's own preferred stock, 5,000 shares, at cost | <u>632,650</u> |
| | \$5,304,793 |

In these instances the object of the fund and the need for liquidity required cash in excess of the amount provided by ordinary collections in the course of operations.

Classes of reserves. Reserves may be classified as valuation, liability, or surplus reserves.

Valuation reserves. A valuation reserve applies to an asset and is set up to provide for shrinkage in the value of the asset. It is created by a charge to income in an effort to arrive at an accurate statement of profit for the period and to adjust the balance-sheet value of the asset. A valuation reserve applies to fixed capital assets such as plant and investments and to current or working capital assets such as marketable securities, receivables, and inventory.

Fixed assets. Fixed assets lose value through depreciation, obsolescence, or depletion. This loss in value is provided for in the income statement by a charge to income and a credit to a reserve account which, in conjunction with the investment in the asset

carried on the books, reflects the net current book valuation of the asset. For example, Norrestern & West Railway reported "Depreciation and Amortization—Road and Equipment" of \$290,203,961 against "Investment in Transportation Property" of \$950,169,352, giving the asset a net book value of \$659,965,391. Turabine Electric Light Company reported a "Reserve for Depreciation" of \$11,458,250 and an investment in utility plant of \$52,263,840, or a net utility plant value of \$40,805,590. At the same time, Straddlerocke Products Corporation reported:

| | |
|--|----------------------|
| Land. | \$ 13,107,501 |
| Buildings, Machinery and Equipment | 222,387,706 |
| | <u>\$235,495,207</u> |
| Less—Reserve for Depreciation. | 89,363,425 |
| | <u>\$146,131,782</u> |

While land is included in the statement of fixed assets, the reserve for depreciation does not apply to it since land is considered as non-depreciable. Some companies segregate land from the depreciable assets in reporting fixed assets. For example, American Radiator & Standard Sanitary Corporation reported depreciable assets separately from land:

| | |
|---|---------------------|
| Property, Plant and Equipment: | |
| Land, at cost. | \$ 5,334,191 |
| Depreciable assets, at cost | 71,795,421 |
| | <u>\$77,129,612</u> |
| Less: Reserve for depreciation. | 42,784,361 |
| | <u>\$34,345,251</u> |

Sears, Roebuck & Co. went a step further and designated the particular class of depreciable asset to which the reserve for depreciation applied:

| | | | |
|---|---------------|---------------|------------|
| Fixed Assets (at cost): | | | |
| Land. | | \$ | 20,125,670 |
| Buildings. | \$121,325,740 | | |
| Less: Reserve for depreciation. | 46,818,000 | | 74,507,740 |
| Furniture & Fixtures and equipment. | 59,273,583 | | |
| Less: Reserve for depreciation. | 46,687,272 | | 12,586,311 |
| Total Fixed Assets. | | \$107,219,721 | |

In mining companies a periodic estimate of the portion of the asset exhausted in operation, known as depletion, is necessary to show the true present value of the asset. For instance, Anaconda Copper Mining Company reported:

| | |
|---|--------------------|
| Timber lands and phosphate deposits | \$6,295,076 |
| Less reserve for depletion. | 2,691,811 |
| Net. | <u>\$3,603,265</u> |

The depreciation reserve does not necessarily increase each year by the full amount charged against earnings for depreciation. When property is retired its gross value is deducted from the property account and the depreciation accrued against it to date is deducted from the depreciation reserve. International Harvester Company, for example, reported "Reserve for Depreciation" of "Buildings, Machinery, and Equipment" in a recent year as follows:

| | |
|---|----------------------|
| Balance, beginning of year | \$148,667,555 |
| Provision charged to income | 22,249,402 |
| | <u>\$170,916,957</u> |
| Charges for property sold, scrapped, etc. during year | 6,007,576 |
| Balance, end of year | <u>\$164,909,381</u> |

In some instances fully depreciated property is carried on the books until retired from use. If, however, the property is retired before it has been fully depreciated, there is sustained a "loss on property retired" which is charged to surplus and not against the current earnings.

Investments in subsidiary companies lose, or face the prospect of losing, value through changes in current conditions for which provision must be made. General Electric Company, with substantial investments in affiliated companies, sets up a reserve to provide for possible loss in value of those investments. Other companies have either written off some investments or have set up a reserve equal to the book value of the investments. For instance, Straddlerocke Products Corporation after writing down its investments in Continental European subsidiaries to a nominal value carried the reserve for investments in other foreign subsidiaries at \$3,503,935.

Foreign Subsidiaries:

| | |
|--|--------------------|
| Canadian | \$5,692,438 |
| English, Australian, and Argentine | 3,944,717 |
| Continental European | 1 |
| | <u>\$9,637,156</u> |
| Less: Reserve | 3,503,935 |
| Net | <u>\$6,133,221</u> |

American Radiator & Standard Sanitary Corporation set up a reserve equal to the book value of some of its foreign subsidiaries and reported its investments in them as follows:

| | |
|--|------|
| Belgian, French, German, Dutch, and Italian Subsidiaries (less reserve \$6,552,651) | None |
|--|------|

This meant that those investments were carried on the books at \$6,552,651, but a reserve for a possible loss in value had been set up amounting to \$6,552,651.

Current assets. The current assets subject to loss in value are marketable securities, receivables, and inventory. While marketable securities should be valued at the lower of market or cost, some companies also provide a reserve for possible loss in value. Corn Products Refining Company, for example, reported marketable securities at market value of \$37,202,113 and at the same time set up a reserve of \$1,119,551.

| | |
|---|---------------------|
| Marketable Securities at quoted market value: | |
| U. S. Government | \$23,796,868 |
| State and Municipal. | 10,439,496 |
| Other. | 2,965,749 |
| | <u>\$37,202,113</u> |
| Less: Reserve for depreciation | 1,119,551 |
| Total Marketable Securities | <u>\$36,082,562</u> |

Marketable securities had a quoted market value the next year of \$35,914,337 against a cost of \$35,442,281. In view of the fact that approximately 94 per cent of the marketable securities consisted of federal and municipal obligations, the company changed its practice and valued the securities in the balance sheet at cost. At the same time the company announced the policy of providing a reserve for loss in value only when the quoted market value was lower than the original cost.

The reserve for doubtful accounts and for discounts is set up as an offset to the accounts of customers and indicates the management's estimate of the loss in value which is likely to occur in their collection. The Securities and Exchange Commission has taken the position that the reserve for doubtful accounts receivable neither should be merged with other reserves on the balance sheet nor stated on the liability side of the balance sheet, but should be shown separately on the asset side of the balance sheet as a deduction from the accounts receivable. The purpose of this reserve is to provide, in the light of experience, the probable amount of the loss in order to state more correctly the liquidating value of the asset on the balance sheet and to charge the loss to the earnings for the period in which the sale occurred. Although this purpose is not always fully accomplished, the estimate at the close of each fiscal year does effect an equalizing of bad debt expenses from year to year. Straddlerocke Products Corporation, for example, reported receivables of \$36,147,081 and a reserve for doubtful accounts of \$3,321,942.

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|---------------------|---------------------|---------------------|
| Notes and Accounts Receivable. | \$36,147,081 | \$40,358,126 | \$39,962,789 |
| Less: Reserve. | 3,321,942 | 3,465,131 | 3,500,557 |
| Net Receivables. | <u>\$32,825,139</u> | <u>\$36,892,995</u> | <u>\$36,462,232</u> |

American Radiator & Standard Sanitary Corporation has reported receivables after the reserve for doubtful accounts as: "Accounts Receivable (less Reserve \$896,985) . . . \$9,441,718." Inasmuch as the reserve amounted to \$896,985, the total receivables aggregated \$10,338,703.

Though inventory should be valued at market or cost, whichever is lower, companies whose inventory is subject to possible rapid and drastic decline in value sometimes make provision for such decline by establishing a reserve. National Dairy Products Corporation in one year valued inventory at the lower of cost or market and at the same time maintained a reserve for "possible future inventory adjustments and other contingencies." A similar provision appeared in the reports of Swift & Company, International Harvester Company, and Montgomery Ward & Company. The last company valued inventory (priced at the lower of cost or market) at \$117,530,922 and set up a reserve for "Possible future inventory price decline" of \$16,000,000. International Harvester Company, in a recent year, valued inventories at \$228,249,543 on the basis of the lower of cost or market, but at the same time maintained a reserve for inventories of \$50,000,000 which was "in recognition of increased risk of future losses on inventories because of higher price levels."

In considering reserves for declines in marketable securities or in inventory, it is necessary to determine whether the reserve reflects an actual or a possible decline in value. If the former, it is truly a valuation reserve, but if the latter it is considered a surplus reserve inasmuch as it provides for a contingent loss.

The writing off of a reserve for inventory fluctuations which was created in prior periods should result in an addition to surplus and not to current profits. Were such amount credited to the opening inventory it would result in an understatement of the cost of goods sold and an overstatement of the current profits. The American Institute of Accountants has stated that such reserves "should be created preferably by a segregation or appropriation of surplus and should be restored to surplus when no longer considered necessary." The Institute has recognized as proper, but less desirable, "the alternative procedure of (a) setting up such a reserve by an appropriation of net income so reported in the income statement that the final figure would clearly indicate that it is not the entire net income, and (b) showing the subsequent return of such a reserve at the foot of the income statement after the determination of net income for the period in such a way as to clearly indicate that it is net income."

Provision for loss in value of an asset may be accomplished by crediting the asset account, thus writing it down, or by crediting a reserve. The reserve thus set up by the latter method is called a "valuation" reserve, since both the asset account and the reserve must be considered in determining the book value of the asset. Valuation reserves appear in corporate reports either on the asset side of the balance sheet as a deduction from the asset affected or on the liability side as a reserve. General Electric Company, for example, reported depreciation reserve for fixed assets as a deduction from the asset:

| | |
|--|----------------------|
| Fixed Assets: | |
| Plant and Equipment, at cost | \$679,960,085 |
| Less: Depreciation Reserve | 403,456,596 |
| | <u>\$276,503,489</u> |

Du Pont & Company, on the other hand, reported as an asset "Plants and Properties, at approximate cost . . . \$963,703,223" and on the liability side "Reserve for Depreciation and Obsolescence . . . \$502,054,449." Turabine Electric Light Company reported as an asset "Utility Plant . . . \$52,263,840" and on the liability side "Reserve for Depreciation of Utility Plant . . . \$11,458,250." The practice of crediting to a reserve instead of to the asset is preferable for two reasons: (a) the provision is an estimate which is more clearly indicated by crediting a reserve than by crediting the asset account, and (b) if a reserve is credited, the balance of the asset account represents the cost of the asset still in service, assuming, of course, that there are no fully depreciated assets still carried on the books.

Liability reserves. The purpose of a liability reserve is to provide for a definite liability that is fairly determinable in amount. The most common liability reserves are those set up for taxes, insurance, and pensions. Taxes represent a liability that will mature in a very short period. The uncertainty that sometimes exists, however, as to the exact amount of the taxes for which the company will be liable, has resulted in the use of the term "reserve for taxes" rather than "taxes accrued." Companies are frequently unable to compute their federal tax liability until some time after the close of the fiscal year. In like manner the assessment of local taxes may be debatable and subject to reduction upon appeal. Inasmuch as the reserve for current taxes represents an actual liability that will mature before the end of the next fiscal period, it is considered as a current debt and is included among the current liabilities.

Sometimes companies, in addition to providing for current taxes shown as a current liability, also create a reserve to provide for necessary adjustments of prior years' taxes. For example, Stradlerrocke Products Corporation provided \$22,150,000 for federal income taxes which it reported as a current liability, and at the same time it carried a reserve of \$9,090,039 for "Prior years' federal and state taxes" as a non-current liability.

A second type of liability reserve is a reserve for insurance. For instance, Anaconda Copper Mining Company reported:

Reserves:

For Workmen's Compensation Insurance \$1,815,198

A company that provides for the payment of pensions to employees assumes an obligation the full burden of which should be borne not by the period during which the retirement occurs but by the periods that received the services of the employee. The usual practice is to build up a reserve for this purpose by an annual charge to expenses. Du Pont & Company, for instance, reported:

| | |
|--|---------------|
| Reserve for Pensions..... | \$136,343,741 |
| Less: Cash and Securities held by Trustee of Pension Trusts..... | 105,150,526 |
| Net..... | \$ 31,193,215 |

Reserves for prior years' taxes, insurance, and pensions are usually reported in the section of the liability side of the balance sheet designated "Reserves."

Surplus reserves. Theoretically a surplus reserve is created to act as a buffer for poor years and for emergencies. As it reduces the surplus, it restrains the hope of the stockholders who regard surplus as a source of dividend distribution. Legally, surplus reserves are available for dividends, but from the standpoint of the company's financial report they are designated as unavailable. They may be returned to unappropriated earned surplus, however, at the discretion of the management and thus become available again for dividend distribution. Surplus reserves are created, as a matter of practice, after the charges establishing valuation and liability reserves have determined the profits available for such reservation.

Surplus reserves are sometimes designated for specific purposes. International Harvester Company, for example, reported:

Reserves:

| | |
|--|--------------|
| Special Maintenance... . | \$ 1,336,780 |
| Development and Extension .. . | 10,915,949 |
| Post-War Rehabilitation and Contingencies..... | 30,000,000 |

The most common surplus reserve is for contingencies, and may be designated as "contingency reserve" or "general reserve." Last year and the previous year Straddlerocke Products Corporation carried a reserve of \$15,000,000 for "Possible future inventory price declines and other contingencies." Radio Corporation of America reported both a "Reserve for Contingencies . . . \$3,106,174" and a "General Reserve . . . \$5,441,301." Bigelow-Sanford Carpet Company reported "Surplus Reserves . . . \$1,800,000" consisting of \$1,000,000 reserve for inventories and \$800,000 reserve for contingencies.

Surplus reserves, especially of the optional type (reserve for contingencies), are usually associated with conservative financial management. This policy results in an increase in both the stockholders' investment and the creditors' margin of protection.

Corporate financial statements during the war period were criticized in some cases on the ground that net income was reported after the deduction of reserves for contingencies, reconversion of plants, or other postwar purposes and therefore was understated. The need for those reserves was the subject of extensive study by the Treasury Department, the Securities and Exchange Commission, and the American Institute of Accountants. All of those studies accepted postwar reserves in principle; the disagreement applied largely to the size of the reserve. Corporate managements sought to provide for the extraordinary expenses and losses which would inevitably arise in conversion to war work and which were proper charges against war earnings. The establishment of excessive reserves would provide no tax relief, since such reserves were not legal deductions for tax purposes but would become so only when the anticipated expenses or losses were actually incurred. The United States Steel Corporation, for example, established a reserve for "estimated additional costs arising out of war." This reserve was protected by a fund which was designated as "cash and United States Government securities set aside for property additions and for expenditures arising out of war." The theory underlying such provision was that when accrued war costs became actual outlays they would be met out of the reserve without affecting future working capital.

The American Institute of Accountants has taken the position that:

"When a reserve is provided by a charge to income, the amount recorded as net income for the period is correspondingly reduced. If the provision is not

properly chargeable to current revenues, net income for the period is understated by the amount of the provision. If such reserve should then be used to relieve the income of subsequent periods of charges that would otherwise be made there against, the income of such subsequent periods would be thereby overstated. When a reserve is used in this manner, profit for a given period may be significantly increased or decreased by mere whim."

The Institute has recommended that contingency reserves be established by an appropriation of surplus. General Foods Corporation, in a recent year, reported net income of \$18,147,515 after a provision for contingencies of \$3,000,000. The next year it adopted a policy of computing net income before providing for contingencies and reported a net income of \$18,303,594. In order to compare this \$18,303,594 with comparable net income for the previous year it was necessary to adjust the previously reported net income for the previous year from \$18,147,515 to \$21,147,515.

Analysis of reserves. The valuation and the liability reserves command the attention of the investor because by their very nature those reserves are estimates. An underestimate or an overestimate of the loss in value of an asset, or of the liability incurred, distorts the income statement and the balance sheet. An underestimate of the loss in value of the asset understates the expenses charged to the period, thus overstating the earnings for the period; at the same time, it overstates the balance-sheet value of the asset. An underestimate of the liability incurred also understates the expenses and overstates the earnings and, correspondingly, understates the liability reserve. By the same token, an overestimate of the loss in value of the asset overstates the expenses charged to the period, thus understating the earnings and, at the same time, understates the balance-sheet value of the asset. An overestimate of the liability incurred also overstates the expenses and understates the earnings and, correspondingly, overstates the liability reserve.

The investor is interested in the amount of and the changes in the reserve. For example, General Electric Company reported as follows in a recent year:

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------------|------------------|------------------|
| Fixed Assets: | | |
| Plant and equipment—cost..... | \$508,164,075 | \$424,209,947 |
| Less: Depreciation reserves.. . . . | 312,235,404 | 300,461,394 |
| Plant and equipment—net..... | \$195,928,671 | \$123,748,553 |

The change in the plant and equipment account from \$424,209,947 to \$508,164,075 was accounted for as follows:

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| | |
|----------------------------------|----------------------|
| Cost at beginning of period..... | \$424,209,947 |
| Cost of additions..... | 101,962,664 |
| | <u>526,172,611</u> |
| Cost of dismantlements..... | 18,008,536 |
| Cost at end of period..... | <u>\$508,164,075</u> |

During the year the company made additions to plant and equipment of \$101,962,664 and at the same time dismantled or retired assets carried at \$18,008,536. The depreciation reserve increased from \$300,461,394 to \$312,235,404 representing the following adjustments:

| | |
|---------------------------------|----------------------|
| At beginning of period.... | \$300,461,394 |
| Additions charged to income.... | 28,333,723 |
| Proceeds from sales, etc..... | <u>1,448,823</u> |
| | <u>\$330,243,940</u> |
| Cost of dismantlements. | 18,008,536 |
| At end of period | <u>\$312,235,404</u> |

The reserve of \$300,461,394 at the beginning of the year was increased by a charge to income of \$28,333,723 and by proceeds from sales of assets of \$1,448,823. The book value of \$18,008,536 of the assets retired was deducted from the plant and equipment account and from the depreciation reserve.

Analysis of the reserve for depreciation of fixed assets reported by Straddlerlocke Products Corporation revealed that both the charge to income for depreciation and the net withdrawals increased each year.

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------------------|---------------------|---------------------|---------------------|
| Balance, January 1..... | \$82,252,328 | \$73,912,430 | \$66,140,557 |
| Charged to Income..... | <u>14,944,273</u> | <u>12,960,570</u> | <u>10,636,401</u> |
| Total..... | \$97,196,601 | \$86,873,000 | \$76,776,958 |
| Net Withdrawals..... | <u>7,833,176</u> | <u>4,620,672</u> | <u>2,864,528</u> |
| Balance, December 31 | <u>\$89,363,425</u> | <u>\$82,252,328</u> | <u>\$73,912,430</u> |

The increase in net withdrawals implies an increase in the amount of assets fully depreciated or retired. Analysis of the reserve for doubtful accounts revealed that while it decreased in total amount it represented an increased percentage of gross receivables.

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------|------------------|------------------|-------------------|
| Balance, January 1..... | \$3,465,131 | \$3,500,557 | \$3,645,120 |
| Reduction in Reserve..... | <u>143,189</u> | <u>35,426</u> | <u>144,563</u> |
| Balance, December 31..... | \$3,321,942 | \$3,465,131 | \$3,500,557 |
| Reserve/Receivables..... | 9.1% | 8.6% | 8.8% |

Review Questions

1. Explain the calculation of net worth.
2. Name the classes of surplus.
3. Indicate the source and significance of earned surplus.
4. Define capital surplus and explain the sources.
5. Comment on the following statement of capital surplus:

| | |
|--|--------------------|
| Balance, beginning of year, representing the excess of proceeds from sale of capital stock over the par value thereof, the net excess of book value of net tangible assets and capital stocks of subsidiaries acquired over cash paid and par value of common stock issued therefor, etc . . . | \$3,089,220 |
| Deduct—excess of cost over par value of 10,000 shares of 5½% cumulative preferred stock retired during the year . . | 63,750 |
| Balance, end of year. | <u>\$3,025,470</u> |

6. Comment on the following statement of capital surplus:

| | |
|---|---------------------|
| Balance, beginning of year | \$3,148,713 |
| Add—reduction in the par value of the outstanding common stock from \$10 to \$1 per share | 86,229,076 |
| Balance, end of year | <u>\$89,377,789</u> |

7. Account for the creation of "Unearned Surplus-Special" from the following data:

| | <i>This Year</i> | <i>Last Year</i> |
|------------------------------|------------------|------------------|
| Capital stock: | | |
| Outstanding shares | 11,476,527 | 11,476,535 |
| Stated value | \$20 | \$34 |
| Surplus: | | |
| Unearned—Special. | \$160,671,650 | nil |

8. Account for the following changes in capital surplus:

| | <i>This Year</i> | <i>Last Year</i> | <i>Previous Year</i> |
|----------------------------|------------------|------------------|----------------------|
| Common stock: | | | |
| Number of shares | 250,000 | 250,000 | 250,000 |
| Par value | \$5 | \$5 | \$25 |
| Total par value. | \$1,250,000 | \$1,250,000 | \$6,250,000 |
| Goodwill. | nil | \$5,000,000 | \$5,000,000 |
| Capital surplus | nil | \$5,000,000 | nil |

9. Name the general uses of surplus.
10. Indicate in each of the following instances whether the charge is to earned surplus or to capital surplus: absorption of losses, payment of dividends, provision for specific capital uses, transfer of funds to capital stock.
11. Name the classes of surplus adjustments.
12. Name common debits to surplus and credits to surplus representing current period surplus adjustments.
13. Name common debits to surplus and credits to surplus representing adjustments applicable to prior periods.
14. Comment on the following statement of earned surplus:

| | |
|--|-------------------|
| Balance at beginning of year | \$32,515,806 |
| Net income | 19,581,006 |
| Transfers from reserves | <u>14,693,850</u> |
| | \$66,790,662 |

Deduct:

| | | |
|---|-------------------|---------------------|
| Dividends paid | \$ 9,508,900 | |
| Write-off of goodwill purchased | 519,839 | |
| Appropriations to reserves | <u>10,383,939</u> | 20,412,678 |
| Balance at end of year | | <u>\$46,377,984</u> |

15. Discuss the significance of analyzing surplus adjustments.
16. Define a reserve and indicate its source.
17. Comment on the following balance sheet statement of surplus:

Surplus:

| | |
|---|----------------------|
| Capital and paid-in surplus | \$ 38,055,122 |
| Earned surplus: | |
| Appropriated (reserve for payment of interest and sinking fund on debentures) | 7,050,000 |
| Unappropriated | <u>57,541,553</u> |
| | <u>\$102,646,675</u> |

18. Distinguish between legal, financial, and voluntary reasons for the establishment of reserves.
19. Explain the methods of creating reserves.
20. Explain the origin of the \$16,000,000 inventory price decline reserve from the following data:

| | <i>Beginning of Year</i> | <i>Charged to Income</i> | <i>Surplus</i> | <i>End of Year</i> |
|--------------------|------------------------------|------------------------------|----------------|------------------------|
| Previous | | \$5,000,000 | | \$ 5,000,000 |
| Last | \$ 5,000,000 | 6,000,000 | \$4,000,000 | 15,000,000 |
| This | 15,000,000 | 1,000,000 | | 16,000,000 |

21. Account for the following changes in depreciation reserve:

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------------|----------------------|----------------------|
| Balance beginning of year | \$112,253,219 | \$120,656,330 |
| Credit: | | |
| Provision from income | <u>5,904,405</u> | <u>5,776,735</u> |
| | <u>\$118,157,624</u> | <u>\$126,433,065</u> |
| Debit: | | |
| Charges | 1,335,541 | 3,545,798 |
| Transfer to surplus | <u>1,335,541</u> | <u>10,634,048</u> |
| | <u>1,335,541</u> | <u>14,179,846</u> |
| Balance end of year | <u>\$116,822,083</u> | <u>\$112,253,219</u> |

22. Indicate the relation of a reserve to surplus.
23. Distinguish between a reserve and a fund.
24. Explain the purpose and effect of a sinking fund reserve.
25. Comment on the following statement:

| <i>Assets:</i> | | <i>Liabilities:</i> | |
|---|--------------------|------------------------------|--------------------|
| Pension Fund: | | Reserve: | |
| Cash..... | \$2,047,143 | Pension fund reserve | \$5,304,793 |
| U. S. Gov't securities | 2,625,000 | | |
| Company's own preferred stock, 5,000 shares, at cost..... | 632,650 | | |
| | <u>\$5,304,793</u> | | <u>\$5,304,793</u> |

26. Name the classes of reserves.

27. Define a valuation reserve.
28. Indicate the assets involved in valuation reserves.
29. Comment on the following balance sheet statement of fixed assets:

| | | |
|---|-------------------|---------------------|
| Fixed Assets (at cost, less depreciation reserves): | | |
| Land | | \$ 6,242,267 |
| Buildings | \$36,639,091 | |
| Fixtures and equipment | 29,012,953 | |
| | <u>65,652,044</u> | |
| Less—reserves for depreciation | 36,267,371 | 29,384,673 |
| Leasehold improvements (less amortization) | | <u>4,028,052</u> |
| | | <u>\$39,654,992</u> |

30. Comment on the following statement of fixed assets:

| | | |
|---|--|--------------------|
| Fixed assets (at cost, after deducting fully-depreciated assets): | | |
| Land and buildings owned | | \$8,664,483 |
| Less—reserves for depreciation and obsolescence | | <u>3,179,844</u> |
| | | <u>\$5,484,639</u> |
| Fixtures and equipment, etc.: | | |
| Store fixtures, leased property improvements, machinery and equipment | | \$5,798,526 |
| Automobiles | | <u>676,123</u> |
| | | <u>6,474,649</u> |
| Less—reserve for depreciation | | <u>3,316,750</u> |
| | | <u>3,157,899</u> |
| Total fixed assets | | <u>\$8,642,538</u> |

31. Describe the methods of reporting valuation reserves.
32. Define a liability reserve and indicate the usual reserves of this type.
33. Define a surplus reserve and indicate its purpose.
34. Should a reserve, established for future inventory price decline, be provided by appropriation of earned surplus or by a charge to current income?
35. Describe the effect of a surplus reserve.
36. Is a surplus reserve available for the payment of dividends?
37. Discuss the relation of surplus reserves to valuation and liability reserves as related to earnings.
38. Discuss the relation of valuation and liability reserves to reported earnings.
39. Discuss the factors involved in the analysis of reserves.

Assignment

- (a) Account for the following change in capital surplus:

| | <i>This Year</i> | <i>Last Year</i> |
|---------------------------|------------------|------------------|
| Goodwill | None | \$228,123,581 |
| Capital Stock: | | |
| No. of Shares | 31,708,457 | 31,708,457 |
| Par Value | \$15 | \$25 |
| Total Par Value | \$475,626,855 | \$792,711,425 |
| Capital Surplus | \$114,613,803 | \$ 25,652,814 |

- (b) Account for the following change in the capital surplus of a company which sold 250,000 shares of common stock during "This Year" at \$50 a share:

INVESTMENT ANALYSIS

| | <i>This Year</i> | <i>Last Year</i> |
|--------------------------|------------------|------------------|
| Capital Stock: | | |
| No. of Shares..... | 2,915,191 | 2,665,191 |
| Par Value. | \$20 | \$20 |
| Total Par Value | \$58,303,820 | \$53,303,820 |
| Capital Surplus | \$23,377,505 | \$15,877,505 |

(c) Account for the following changes in surplus:

| | <i>This Year</i> | <i>Last Year</i> |
|------------------------|------------------|------------------|
| Common Stock: | | |
| No. of Shares. | 2,250,021 | 2,250,021 |
| Stated Value | \$40 | \$10 |
| Total Stated Value . . | \$90,000,840 | \$22,500,210 |
| Surplus: | | |
| Capital | None | \$28,617,861 |
| Earned | \$46,033,231 | \$84,916,000 |

(d) Compute the net worth of an industrial company from the following data:

| | |
|-------------------------------|---------------|
| Current Liabilities | \$ 17,859,900 |
| Preferred Stock... | 4,386,400 |
| Reserves | 1,946,550 |
| Common Stock. | 70,303,037 |
| Funded Debt... | 3,500,000 |
| Paid-in Surplus.. . . . | 20,961,382 |
| Total Assets... | 127,718,522 |
| Earned Surplus. | 8,489,353 |
| Minority Interest | 271,900 |

(e) Classify each of the following reserves: (1) insurance, (2) depreciation of plant and equipment, (3) general, (4) doubtful accounts, (5) special maintenance, (6) investments, (7) development and extension, (8) bad debts, (9) contingencies, (10) prior years' taxes.

(f) Determine the earned surplus at the end of the year from the following data:

| | |
|---|--------------|
| Cash dividends paid during the year . . | \$ 3,257,748 |
| Net income for the year... . . | 13,350,217 |
| Earned surplus at beginning of year . . | 26,997,173 |
| Stock dividend paid during year . . . | 9,745,149 |

(g) Determine the surplus at the beginning of the year from the following data:

| | |
|---|--------------|
| Dividends paid during the year . . . | \$ 4,487,040 |
| Reserve no longer required against advances to subsidiaries. | 358,765 |
| Surplus at end of the year..... | 12,805,935 |
| Excess tax provision in prior years . . . | 233,506 |
| Net income for the year..... | 5,389,581 |

CHAPTER SEVENTEEN

WORKING CAPITAL

Introduction. The solvency of a company depends upon its working capital position, that is, its ability to pay the current debts as they mature. Measurement of the ability to meet the current debts as they mature involves consideration of the current liabilities and the current assets. Current liabilities are debts which will become payable within one year from the date of the balance sheet. Current assets are those assets which, in the normal operations of the business, are converted into cash. The capital invested in the current assets may be obtained from (a) the creation of current liabilities including short-term borrowing, (b) the issuance of long-term liabilities such as notes and bonds, (c) the sale of capital stock, or (d) profits which have been retained in the business. This capital circulates within the group of current assets—from cash to inventories, to receivables and back to cash. In a subsequent balance sheet the current inventories will have become cash and receivables while the present receivables will have become cash.

Net working capital. The excess of current assets over the current liabilities is called the net working capital. For example, a company with current liabilities of \$4,000,000 and current assets of \$10,000,000 will need to use \$4,000,000 of the current assets to satisfy the current liabilities, leaving \$6,000,000 of current assets or net working capital free for other uses within the business.

Railroad and public utility companies. Analysis of the working capital position of railroad and public utility companies is not particularly important because of the peculiar position of companies in those fields. The New York Central Railroad reported an excess of current liabilities over current assets of \$51,929,390, \$41,975,704, and \$45,786,735 in three successive years. The Jamaica Water Supply Company of Long Island, New York, reported a net profit of \$2.77 a share on its common stock in one year, although its cur-

rent liabilities of \$540,147 exceeded its current assets of \$449,301 by \$90,846.

Railroad and public utility companies are not faced with the problem of financing inventory or receivables. They sell a service rather than a product. Inventory consists primarily of materials and supplies which are used in the maintenance of the operating assets or in the construction of additions and betterments. No value appears on the books of railroads for available transportation service or on the books of public utilities for water impounded in reservoirs, or gas in storage or electricity which is generated for immediate use. Receivables also are relatively unimportant, since they are collected readily. Public utility companies have the right, and in some instances are required by the regulatory body, to discontinue service to customers who do not pay promptly. The receipt of revenues more or less regularly and in cash assures them of a fairly steady flow of funds to meet current bills. In addition, the holdings of marketable securities give them a secondary reserve which can be readily turned into cash. Furthermore, they are in a position to readily fund their unfunded debt through the sale of bonds. It has been customary to provide for expansion through new financing rather than from profits. A prosperous public utility may at times permit its current liabilities to exceed its current assets, planning to replenish its working capital by a new financing program. In the determination of rates in the public utility field, commissions view the working capital needs of the company as the amount reasonable or necessary rather than the actual amount reflected in the balance sheet.

Analysis of the working capital position of a railroad or a public utility company is usually restricted to a consideration of cash on the one hand and fixed charges and near-term bond maturities on the other. The Norrester & West Railway had \$30,515,567 in cash and temporary cash investments which was ample to meet fixed charges of \$11,670,025. Similarly, Turbine Electric Light Company had \$8,580,542 in cash and temporary cash investments compared to \$507,850 in fixed charges.

Industrial companies. Analysis of the working capital position of an industrial company, on the other hand, is most important. Insufficient working capital may result in slow payment of bills with resulting poor credit rating, in curtailment of operations, and in general inability to progress. The most common reason for the failure of industrial companies is inadequate working capital.

Insufficient working capital presents the danger of insolvency. Insolvency, in turn, may be technical or actual. A business is technically insolvent when it is unable to meet its obligations as they become due in the usual course of operations. Its immediate difficulty is the excess of maturing obligations over the ready means to meet them. On the other hand, a business is actually insolvent when the total assets are insufficient to meet the total liabilities in full. Actual insolvency, however, is usually preceded by technical insolvency.

Causes of inadequate working capital. Inadequate working capital may arise from either an actual reduction in working capital or an inadequate growth of working capital. A reduction in working capital is commonly caused by the payment of unearned interest and dividends, the absorption of operating losses, or the transfer of current funds to fixed assets. During a recent period, for example, American Tobacco Company paid a total of \$20,000,000 of cash dividends in excess of earnings which, together with the rise in inventory investment, made it necessary to increase funded debt by approximately \$19,000,000 and bank borrowings by about \$28,000,000. Most of the gross revenues of International Business Machines Corporation come from the leasing of electrically operated machines and auxiliary equipment which mechanically sort, tabulate, and compile statistical data by the use of punched cards. Those machines and the equipment when leased are transferred on the books of the company from inventory to fixed asset account. The outlays to build the machines are a heavy burden on working capital which must be replenished from time to time. The company has obtained some of the working capital from current earnings by paying dividends partly in cash and partly in stock. It was necessary, however, for the company to raise additional working capital by the sale of debentures.

It is equally important that working capital increase with an expanding volume of business. For example, the marked rise in sales of Montgomery Ward & Company during one period made it necessary for the company to raise additional working capital through the sale of stock and the retention of earnings. Out of an estimated \$25,890,000 net proceeds from the sale of common stock, \$10,000,000 was used to reimburse the treasury for common dividends paid out of earnings and \$15,890,000 was added to working capital. Later the company faced the problem of financing a \$32,000,000 increase in receivables and inventory, which it accom-

plished in part by the retention of a substantial portion of the profits.

A company whose working capital is insufficient, therefore, must bring new funds into the business either from such permanent sources as the stockholders, through the sale of additional stock, or from long-term creditors, through the sale of bonds, or it must pay off the current liabilities through the liquidation of assets, which may curtail or even halt operations, or through the funding of unfunded debt. Liggett & Myers Tobacco Company, for example, improved its working capital position by the conversion of part of its current liabilities into funded debt and thus reduced the pressure of current liabilities upon the current assets. The company sold \$75,000,000 of 2½ per cent debentures, part of the proceeds of which was used to reduce bank loans from \$57,000,000 to \$18,000,000. The funding operation resulted in (a) an increase in current assets from \$284,279,713 to \$326,831,281, (b) a decrease in current liabilities from \$75,390,004 to \$40,676,235, (c) an increase in net working capital from \$208,889,709 to \$286,155,046 and in the current ratio from 3.8 to 8.0.

Measurement of net working capital. The net working capital of a company is measured by the excess of current assets over current liabilities. The net working capital of Straddlerocke Products Corporation, for example, was \$124,064,691, compared to \$116,001,877 last year and \$90,228,635 the previous year.

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------|-------------------|-------------------|-------------------|
| Current Assets.... | \$166,541,940 | \$172,294,981 | \$153,244,398 |
| Current Liabilities..... | <u>42,477,249</u> | <u>56,293,104</u> | <u>63,015,763</u> |
| Net Working Capital..... | \$124,064,691 | \$116,001,877 | \$ 90,228,635 |

Working capital turnover. The productivity of the working capital is measured by the working capital turnover ratio: "Net sales/net working capital." This ratio shows the number of times the working capital has reproduced itself in sales. Straddlerocke Products Corporation, for example, reported net sales of \$897,675,545 and net working capital of \$124,064,691. The working capital was turned over 7.23 times (\$897,675,545/\$124,064,691). This compares with 8.50 times and 9.94 times, respectively. The larger the turnover, the greater is the volume of sales per dollar of working capital; and, conversely, the lower the turnover, the smaller is the volume of sales per dollar of working capital. For example, in the instance of Straddlerocke Products Corporation, the turnover of 7.23 times, 8.50 times, and 9.94 times, respectively, meant

that the company obtained \$7.23 of net sales per dollar of working capital against \$8.50 and \$9.94, respectively. The slowing down in the turnover meant that the company was securing a decreasing number of dollars of net sales per dollar of working capital.

Working capital position. The proper amount of working capital required by a particular company depends upon both the volume and the character of its business. The mere statement of \$124,064,691 of net working capital for Straddlerocke Products Corporation, however, was no indication of adequacy or inadequacy of working capital, since there is no criterion by which to judge. For example, in the following illustration, Company A has net working capital of \$3,000,000 while Company B has only \$1,000,000. The working capital position of a company, however, refers to its ability to meet current liabilities. The measurement of this ability is afforded not by the amount of net working capital but by a comparison of the amount of current assets available to meet the current liabilities. In relation to current liabilities, Company A has only \$1.50 of current assets for each dollar of current liabilities,

| | <i>Company A</i> | <i>Company B</i> |
|---------------------------|------------------|------------------|
| Current Assets . . . | \$9,000,000 | \$1,500,000 |
| Current Liabilities . . . | 6,000,000 | 500,000 |
| Net Working Capital | \$3,000,000 | \$1,000,000 |

whereas Company B has \$3 of current assets per dollar of current liabilities. Obviously, Company B has the stronger working capital position. This situation was well illustrated in the instance of American Radiator and Standard Sanitary Corporation which reported as follows in a recent year:

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------|------------------|------------------|
| Current Assets | \$92,120,143 | \$80,784,206 |
| Current Liabilities | 26,194,927 | 15,540,529 |
| Net Working Capital | \$65,925,216 | \$65,243,677 |

Net working capital this year was substantially the same as last year, yet the company had only \$3.51 of current assets per dollar of current liabilities this year compared to \$5.19 last year. Similarly, Continental Motors reported as follows:

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------|------------------|------------------|
| Current Assets | \$44,432,296 | \$33,215,080 |
| Current Liabilities | 19,376,103 | 10,417,774 |
| Net Working Capital | \$25,056,193 | \$22,797,306 |
| Current Ratio | 2.28 | 3.19 |

Net working capital this year was \$2,258,887 greater than last year, yet there was only \$2.28 of current assets per dollar of current liabilities this year as against \$3.19 last year.

Current ratio. The more common method of measuring the working capital position of a company is by the current ratio "Current assets/current liabilities." For Straddlerocke Products Corporation the current ratio was 3.9 to 1 (\$166,541,940/\$42,477,249) compared to 3.1 and 2.4, respectively. The current ratio expresses the number of times the current assets could satisfy the current liabilities. It is known as a solvency ratio. The current assets of Straddlerocke Products Corporation this year were sufficient to satisfy the current liabilities 3.9 times.

The usual minimum standard is 2 to 1; that is, the current assets should be at least twice the current liabilities, on the theory that the stockholders should have an investment in the current assets at least equal to that provided by the current creditors. For example, in the following situation, with a current ratio of 2 to 1, the current creditors have supplied \$45,250,000 or 50 per cent and the stockholders \$45,250,000 or 50 per cent of the working capital in-

| | |
|-------------------------------|-------------------|
| Current Assets | \$90,500,000 |
| Current Liabilities | <u>45,250,000</u> |
| Net Working Capital | \$45,250,000 |
| Current Ratio | 2 to 1 |

vested in current assets. If the ratio is less than 2 to 1, the creditors are supplying more working capital than the stockholders. For example, in the following case, the creditors are providing 56 per cent (\$30,000,000) and the stockholders only 44 per cent (\$23,500,000) of the total current assets.

| | |
|-------------------------------|-------------------|
| Current Assets | \$53,500,000 |
| Current Liabilities | <u>30,000,000</u> |
| Net Working Capital | \$23,500,000 |
| Current Ratio | 1.8 to 1 |

On the other hand, a ratio of 3 to 1 means that the stockholders are providing more of the working capital than the creditors. Thus in the following illustration the stockholders are providing 67 per cent (\$14,000,000) and the creditors 33 per cent (\$7,000,000) of the total current assets.

| | |
|-------------------------------|------------------|
| Current Assets | \$21,000,000 |
| Current Liabilities | <u>7,000,000</u> |
| Net Working Capital | \$14,000,000 |
| Current Ratio | 3 to 1 |

Significance of current ratio. The current ratio, it should be noted, assumes that the current assets will be used to satisfy the current liabilities and that the liquidation of the current assets will yield, in cash, the total amount stated in the balance sheet. This assumption, however, is not fully justified. Although it is true that current liabilities represent an actual debt and may be considered as non-shrinkable in amount, it is equally true that the current assets, on the other hand, are subject to diminution in actual liquidation and may be considered as shrinkable in amount. What constitutes a satisfactory current ratio varies with the type of business. In general, the more liquid the current assets, the less is the margin needed above the current liabilities. The strength of the working capital position, however, can be determined only by careful analysis of the current liabilities and the current assets.

Current liabilities. Current liabilities include notes payable, accounts payable, accrued expenses, dividends payable, deferred income, and currently due funded debt.

Notes payable. Notes payable consist of notes given to trade creditors or to banks or sold for cash through commercial paper houses. The presence of notes payable, particularly to banks, is not necessarily an indication of weakness. Seasonal borrowings that are fully paid off after the close of the active sales period are normal from the standpoint of both the company and the bank. If the amount of notes payable is substantially less than the cash and marketable securities, the liability offers no great cause for concern. If, however, the bank borrowings are larger than the aggregate of cash and receivables, it may indicate that the company is relying heavily on the banks. Unless the inventory is of an unusually liquid character, the working capital position of the company is weak. More or less permanent bank loans may indicate that the company is in need of long-term capital which should be obtained from the sale of bonds or stock.

Accounts payable. Accounts payable are debts owed to trade creditors, usually for the purchase of inventory.

Accrued expenses. Accrued expenses include salaries and wages, taxes, interest, and other accruals. Accrued expenses, however, differ from accounts and notes payable in one important respect. The latter are the result of business transactions which have been entered on the books of account. An account payable is shown only when a purchase has been made and the invoice received; a note payable is recorded only when a promissory note has been

given or a time draft drawn by a creditor has been accepted. An accrued expense, on the other hand, anticipates an approaching payment, such as taxes, wages, or interest. It represents an attempt to determine the amount for which the period just closed should be charged for the future obligation.

Dividends payable. Dividends payable represent dividends which have been declared but not yet paid. A dividend, once properly declared, becomes an obligation as much as any debt.

Deferred income. Deferred income is income received before it is earned. It should be classed as a current liability if current assets will have to be used in earning it. If, on the other hand, all that is required to earn it is simply the lapse of time, it should be excluded from current liabilities, since it will not drain on current assets.

Bonds payable. A bond due within one year from the date of the balance sheet should also be classed as a current liability unless special provision for liquidating it has been made either by a sinking fund or a refunding operation. Liggett & Myers 5s due August 1, 1951, and amounting to \$12,886,600, appeared in the funded debt in the 1949 report but in the current liabilities in the 1950 report.

Federal taxes. The current liabilities should also include provision for federal income taxes. Many corporations, in anticipation of this liability, have purchased United States Treasury Savings Notes, which may be used as payment for federal taxes. There is no uniform practice among corporations, however, in the manner of reporting the purchase of the notes. Some corporations report them as a current asset; others show them as a deduction from the accrued tax liability. International Harvester Company, for example, has reported tax notes as an asset:

Current Assets:

| | | |
|---|--------------|---------------|
| Cash. | | \$ 51,485,640 |
| Marketable Securities—at cost: | | |
| U. S. Treasury Savings Notes | \$35,000,000 | |
| Other U. S. Gov't Obligations | 87,172,693 | |
| Other Marketable Securities | 34,630 | 122,207,323 |
| Receivables | | 71,890,128 |
| Inventories | | 142,151,208 |
| Total Current Assets | | \$387,734,299 |

Nash-Kelvinator Corporation, on the other hand, reported such notes in the current liabilities as follows:

| | |
|---|--------------|
| Federal taxes on income | \$22,878,963 |
| Less U. S. Treasury Savings Notes to be applied in payment thereof . . . | 17,216,000 |
| Net | \$ 5,662,963 |

Straddlerocke Products Corporation reported savings notes as a deduction from the tax liability:

| | |
|---|--------------|
| Current Liabilities: | |
| Accounts Payable | \$31,474,228 |
| Accrued Liabilities | 11,003,021 |
| Provision for Federal Income Tax | \$22,150,000 |
| Less—U. S. Treasury Savings Notes | 22,150,000 |
| Total | \$42,477,249 |

Inasmuch as the savings notes are earmarked to meet a specific current liability—federal taxes—they should more properly appear as a deduction from the tax liability in the current liabilities.

Liquidity of current assets. The current creditors must look to the current assets as the source of payment of their debts. Inasmuch as cash is the accepted medium of payment of debts, the current assets should be valued on the basis of the amount of cash which it is expected they will produce in the regular course of business and which, therefore, will become available for the payment of current debts. The basic question is: How rapidly will cash be obtained from the current assets in order to meet the current liabilities?

The current assets as reported by Straddlerocke Products Corporation were:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Cash | \$ 45,649,425 | \$ 39,986,989 | \$ 24,916,524 |
| U. S. Government Securities | 7,943,146 | 5,703,309 | 5,697,488 |
| Notes and Accounts Receivable | 36,147,081 | 40,358,126 | 39,962,789 |
| Less: Reserve | 3,321,942 | 3,465,131 | 3,500,557 |
| Net Receivables | 32,825,139 | 36,892,995 | 36,462,232 |
| Inventories: | | | |
| Producers and Materials | 70,204,095 | 77,267,492 | 72,143,135 |
| Supplies | 9,920,135 | 12,444,196 | 14,025,019 |
| Total Inventories | 80,124,230 | 89,711,688 | 86,168,154 |
| Total | \$166,541,940 | \$172,294,981 | \$153,244,398 |

Cash. Cash refers to cash on hand and in banks. In the instance of Straddlerocke Products Corporation, cash represented 27.3 per cent of the total current assets as against 23.2 per cent last year and 16.2 per cent the previous year.

Marketable securities. Marketable securities consist of those

investments which from their origin and intended use have three characteristics: (a) they are purchased for holding during a relatively short term, (b) they have a high degree of price stability, and (c) they are readily marketable. They usually consist primarily of federal, state, and municipal obligations. They represent temporary investment of excess cash built up as a secondary resource of cash to be drawn upon when needed.

Marketable securities are carried at the lower of cost or market value. Corn Products Refining Company has reported as follows:

| | |
|--|---------------------|
| Marketable securities, at cost (market value, \$36,924,690): | |
| United States Government and its instrumentalities . . . | \$32,409,406 |
| State and municipal | 2,225,628 |
| Other | 1,522,255 |
| Total marketable securities | <u>\$36,167,289</u> |

Receivables. Receivables are ordinarily placed after cash and marketable securities in corporate balance sheets on the theory that, of the remaining current assets, they are the most readily convertible into cash. The problem in the valuation of receivables is to determine the amount of cash that will probably be realized when the claims they represent are settled and that, therefore, will be available for the payment of current debts. Receivables may be classed as accounts and notes.¹ Accounts receivable represent amounts owing from customers for the sale of goods or services and are not evidenced by negotiable instruments. Notes receivable, on the other hand, are negotiable instruments and represent a definite settlement with respect to amount and date of payment. A note receivable is generally considered superior to an open-book account, since it lends itself more readily to the legal requirements necessary to collection by law.

Origin of notes receivable. The origin of the note, however, is very important. A note may arise from an overdue account or from trade practice. Obviously, if it arises after the account has become due, it represents an extension of the original credit period and hence is an inferior asset. On the other hand, if given at the time of sale, it is usually in accordance with trade practice. Certain lines of business, such as agricultural machinery, lumber, furs, and jewelry, customarily take notes. International Harvester Company, for example, reported each year as a current asset "notes of dealers, farmers, and motor truck users, etc.," which aggregated

¹ The Securities and Exchange Commission requires notes and accounts receivable to be shown separately in financial statements filed with it.

as much as \$117,766,271 in one year. The importance of notes that year was evidenced by the fact that they represented 82.9 per cent of total receivables. In recent years, however, International Harvester has adopted a program of encouraging agreements between dealers and their banks for local financing which has resulted in a substantial reduction in the amount of notes receivable which the company has been obliged to finance. In order to supplement existing agencies in this financing of time sales, the company organized International Harvester Credit Corporation in 1949.

In general, the note is limited to businesses either dealing in commodities of large unit value or granting long-term credit. The investor, of course, must determine from trade practice whether notes should properly be expected in the current assets. In instances where their use is unusual, it may be assumed that they represent either overdue accounts converted into notes or special credits outside of regular trade, such as notes from officers or employees. In such cases they represent an undesirable asset and are of doubtful maturity and liquidity.

Valuation of receivables. The chief problem in valuing the notes and accounts receivable is usually that of estimating the bad debts or the amount that may not be collected. In order, therefore, for the company to state the cash realizable value of those assets at the end of the fiscal year, it is necessary for it to estimate the amount that probably will not be collected. For example, International Harvester Company in a recent year, with accounts receivable outstanding of \$35,117,198, maintained a reserve for losses of \$3,943,063 and thus carried the receivables at a net value of \$31,174,135. As a result of this estimate, the claims against customers are more correctly valued for the balance sheet and the loss is charged to the period in which the sale is effected instead of the period in which failure to collect is experienced. This charge appears in the income statement as a deduction from income and in the balance sheet as an addition to the reserve for doubtful accounts. For example, Straddlerocke Products Corporation provided a reserve of \$3,321,942 for losses on receivables, which aggregated \$36,147,081.

Receivables/current assets. The percentage of total current assets in the form of receivables is influenced by the nature of the industry. The amount of working capital invested in receivables depends upon (a) the volume of business and the credit terms allowed customers and (b) the effectiveness of the collection sys-

tem. The longer the terms of credit allowed customers or the slower the collection of receivables, the greater is the necessary investment of working capital in receivables; conversely, short terms of credit or rapid collections reduce the amount of working capital tied up in receivables. Receivables represent a high percentage in agricultural machinery companies and a small percentage in variety stores and the cigarette division of the tobacco industry. Receivables represented 19.7 per cent of total current assets for Straddlerocke Products Corporation, compared to 21.4 per cent and 23.8 per cent, respectively.

A high current ratio is not necessarily an indication of a strong working capital position. It may simply reflect an increase in receivables due either to poor collections or to a more liberal credit policy. The extent to which receivables affect the liquidity of the current ratio may be tested by "Receivables/net sales" and "Net sales/receivables."

Receivables/net sales. Since receivables are the result of credit sales, the relation of receivables to sales is important. The amount of receivables on the books at the end of the accounting period, however, should not exceed a reasonable proportion of sales. The ratio "receivables at the end of the year/net sales" indicates the percentage of the year's sales uncollected at the end of the year. In general, a high percentage of receivables to net sales is to be expected in companies that sell on a long-term credit basis, whereas a low percentage will be found in companies that sell on a short-term or cash basis. The application of "Receivables/net sales" in the analysis of an individual company, however, is for the purpose of determining to what extent the company is tying up working capital in receivables as a result of either a change in credit terms or a poor collection policy. If the increase in the current ratio has been due to increased receivables, the question arises: Has the increase in receivables been due to increased volume of sales or to slower collections? Assume the following situation:

| | <i>This Year</i> | <i>Last Year</i> |
|--------------------------------|---------------------|---------------------|
| Net Sales | \$50,000,000 | \$50,000,000 |
| Current Assets: | | |
| Cash. | 5,000,000 | 5,000,000 |
| Receivables. | 10,000,000 | 5,000,000 |
| Inventory. | 10,000,000 | 10,000,000 |
| Total. | <u>\$25,000,000</u> | <u>\$20,000,000</u> |
| Current Liabilities. | 10,000,000 | 10,000,000 |
| Current Ratio. | 2.5 | 2.0 |
| Receivables/Net Sales. | 20% | 10% |

In this instance the current ratio has increased solely because of the increase of \$5,000,000 in receivables. The increase in receivables, however, has not been due to an increase in net sales, as evidenced by the fact that receivables rose from 10 per cent of net sales to 20 per cent. Relative to sales, an increasing amount of working capital has been tied up in receivables. In like fashion, the increase in current ratio of Straddlerocke Products Corporation last year was not due to increased receivables; on the contrary, receivables decreased not only in total but relative to net sales.

STRADDLEROCKE PRODUCTS CORPORATION

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------|------------------|------------------|-------------------|
| Current Ratio | 3.9 | 3.1 | 2.4 |
| Receivables (Gross) . . . | \$36,147,081 | \$40,358,126 | \$39,962,789 |
| Receivables/Net Sales . . . | 4.0% | 4.1% | 4.5% |

Net sales/receivables. The "Net sales/receivables" is known as the receivables turnover and is designed to determine the number of times receivables have turned over during the year. It is a velocity relationship and tests the liquidity of receivables. Obviously, the more rapid the turnover, the larger is the volume of receivables which a given amount of working capital is supporting. In the instance of Straddlerocke Products Corporation, with net sales of \$897,675,545 and receivables of \$36,147,081, the turnover was 24.9 times, compared to 24.4 times and 22.4 times, respectively.

STRADDLEROCKE PRODUCTS CORPORATION

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------------|------------------|------------------|-------------------|
| Net Sales | \$897,675,545 | \$986,403,723 | \$897,323,456 |
| Receivables (Gross) . . . | \$ 36,147,081 | \$ 40,358,126 | \$ 39,962,789 |
| Net Sales/Receivables | 24.9 | 24.4 | 22.4 |

To learn from the turnover figures the average length of time the receivables were outstanding, it is the common practice to divide 365 days by the turnover. Thus, in the instance of Straddlerocke Products Corporation, with a turnover of 24.9 times, receivables were outstanding an average of 14.6 days ($365/24.9$), compared to 14.9 days and 16.3 days, respectively. This ratio may also be computed as "Receivables/average daily sales." In the instance of Straddlerocke Products Corporation, average daily sales amounted to \$2,459,385 ($\$897,675,545/365$). Hence, with receivables of \$36,147,081 and average daily sales of \$2,459,385, receivables were outstanding an average of 14.6 days ($\$36,147,081/\$2,459,385$). The lower this ratio, especially with respect to the usual credit terms, the less likely is the receivables account to contain old and

valueless accounts. Naturally, the more promptly the customers pay, the less is the risk incurred from bad debts, the lower is the collection expense, and the more liquid is the asset. On the other hand, a ratio that is high relative to the usual credit terms reflects an unfavorable situation. In such instance greater allowance must be made for loss of value in liquidation.

Inventory. Though inventory is an asset and a source of profit, a large inventory may create several problems. It may require substantial bank borrowings to finance it, or it may absorb an undue amount of cash. It may also lead to heavy losses in the event of a decline in commodity prices. Inventory presents a problem of valuation that is entirely different from that of cash and receivables. Cash and receivables represent actual cash on hand or bona fide claims for the receipt of cash. Inventory, on the other hand, must be sold before it can be regarded as available for the payment of current debt. In addition, cash and receivables are claims to definite amounts of money, whereas inventory is subject to changes in market value.

Nature of inventory. Inventory may be divided into raw materials, work in process, finished goods, and supplies. Some companies report the inventory in this fashion, but the asset is usually reported as one item. United States Rubber Company, for example, reported inventory as follows:

| | |
|--|---------------------|
| Finished Goods. | \$26,126,081 |
| Goods in Process of Manufacture... | 1,440,677 |
| Raw Materials. | 37,242,287 |
| Supplies. | 3,318,585 |
| Total Inventory.. . . . | <u>\$68,127,630</u> |

International Harvester Company, on the other hand, reported inventory as one item: "Inventories . . . \$151,378,843." Stradlerrocke Products Corporation reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------|---------------------|---------------------|---------------------|
| Inventories: | | | |
| Products and Materials..... | \$70,204,095 | \$77,267,492 | \$72,143,135 |
| Supplies..... | <u>9,920,135</u> | <u>12,444,196</u> | <u>14,025,019</u> |
| Total... | <u>\$80,124,230</u> | <u>\$89,711,688</u> | <u>\$86,168,154</u> |

Inventory valuation. Inventory is usually valued at the lower of cost or market. The investor should determine the basis used in the balance sheet in valuing inventory. Most balance sheets indicate the basis. Cost refers to the cost to the company (purchase price, duties, freight, etc.) whereas market means the price

at which identical goods, in the quantity of the normal order, can be bought or manufactured at prices and costs prevailing as of the statement date. The rule of "cost or market, whichever is lower" is based on the principle of providing for all losses and anticipating no profits. It presumes that a decline in market values for purchases will be followed by a decline in the selling prices of inventory. The reduction of the inventory to market purchase price permits charging the loss to the period during which the price declined and transferring the goods to the next period at a price at which they can presumably be sold. The "cost or market" rule has the twofold objective of not showing an unrealized profit when inventory has a market value in excess of cost and of not showing an inflated value of inventory when cost is in excess of market value at the date of the balance sheet.

Cost of inventory. Two common methods of determining the cost of inventory are the "first-in, first-out" and the "last-in, first-out" methods. The "first-in, first-out" method assumes that all sales have been made from the earliest purchases. The inventory on hand at the end of the year, therefore, is prorated back over the most recent purchases and their actual cost determined. For example, assume that the inventory on hand at the end of the year contains 10,000 units and the record of most recent purchases is:

| | | | |
|---------|-----------------------|-------|---------|
| Oct. 15 | 4,000 units at \$2.00 | | \$8,000 |
| Nov. 24 | 3,000 units at \$1.75 | | 5,250 |
| Dec. 1 | 2,000 units at \$1.50 | .. | 3,000 |
| Dec. 28 | 5,000 units at \$1.80 | | 9,000 |

On a "first-in, first-out" basis, the cost of the inventory would be \$17,250, computed as follows:

| | | |
|-----------------------|-------|-----------------|
| 5,000 units at \$1.80 | | \$9,000 |
| 2,000 units at \$1.50 | | 3,000 |
| 3,000 units at \$1.75 | | 5,250 |
| | | <u>\$17,250</u> |

The "first-in, first-out" method claims to provide an inventory valuation that is in conformity with price trends. Since the inventory is assumed to consist of the most recent purchases and is priced at the most recent costs, it is maintained that the inventory valuation follows the trend of the market.

The "last-in, first-out" method assumes that all sales have been made from the most recent purchases. The goods on hand at the end of the year, therefore, are prorated back over the earlier purchases and their actual cost determined. In the above case the cost of inventory would be \$18,050, computed as follows:

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| | |
|---------------------------------|-----------------|
| 4,000 units at \$2.00 | \$8,000 |
| 3,000 units at \$1.75 | 5,250 |
| 2,000 units at \$1.50 | 3,000 |
| 1,000 units at \$1.80 | 1,800 |
| | <u>\$18,050</u> |

The "last-in, first-out" method is designed to equalize the wide fluctuations in profits and losses that arise from changing prices of commodities. It has been used by many businesses whose inventory consists largely of basic materials—steel, copper, or leather, for instance. It has been defended on the grounds that it tends to equalize periodical profits during a cycle of years, in which prices rise and fall, and tends to keep out of the stated profits any amounts that are not realized in the sense of being represented by a net increase in current assets other than merchandise. Under it, profits that are deferred during a period of rising merchandise costs are taken into earnings during a period of declining costs. Current profits reflect the difference between current costs and current sales prices.

In essence, total pre-federal income tax earnings of a company over a given period of years will be the same under either the "first-in, first-out" or the "last-in, first-out" method of inventory valuation. The amount of earnings reported in each of the years in the period, however, will depend upon the particular method of inventory valuation followed.

Although a discussion of the relative merits of the two methods of determining cost of inventory has no place in this book, a change by the company from one method to the other is significant to the investor when comparing the results of the two years in which the change happened. For example, as of January 1, 1941, Swift & Company adopted the "last-in, first-out" method, as a result of which the value of inventory at the close of the fiscal year, November 1, 1941, was \$20,650,347 less than it would have been under the previous method of determining cost and net profits after federal income and excess profits taxes were approximately \$7,000,000 less. During 1947 the company reached an understanding with the Bureau of Internal Revenue as to the basis and method to be applied in the valuation of inventories. The adoption of the new "lifo" method resulted in reductions in net income for the 1947 fiscal year of approximately \$2,700,000 covering adjustments of income taxes and inventories to December 31, 1946, and approximately \$4,300,000 from the application of the new methods during the period January 1, 1947 to November 1, 1947. Armour & Co.

reported net income of \$20,791,128 in 1946 and \$22,950,269 in 1947. During 1947, however, the company used "lifo" to cover all pork products, thus applying it to approximately 35 per cent of all its inventories. As a result of this change, the net income reported for 1946 and for 1947 were not comparable. The adjustment of its previously reported 1946 net income of \$20,791,128 to the basis used in 1947 resulted in an adjusted net income for 1946 of \$18,526,342. To cushion against declining prices on items not under "lifo," Swift & Co. appropriated \$8,000,000 of 1947 earnings bringing this reserve up to \$17,500,000.

If inventory is valued at cost, which is higher than market value, and if a reserve has been set up equal to the difference, the reserve should be deducted from the cost valuation in preparing the statement of working capital.

Some companies use the base stock or normal stock method in determining the inventory value. Corn Products Refining Company, for instance, follows this method in determining the inventory value of corn, finished, and in process goods. This is effected by establishing normal stock requirements at fixed prices, based upon the lowest monthly cost of corn which has prevailed since the inception of the method. Corn inventories that are in excess of the established normal stock are priced at current cost. The reserve for reduction of normal inventories to fixed prices includes provision to cover replacements at current cost, when required, for encroachment on normal stocks of corn, finished, and in process goods. Cost of goods sold is computed on the basis of inventories at the beginning and at the end of year. Materials and supplies are priced at the lower of cost or market.

Inventory/current assets. The nature of the industry influences the percentage of current assets in the form of inventory. Soap companies, for instance, are obliged to carry very large inventories, sometimes sufficient for six months to a year of operations, because it is necessary to buy the various oils when they are available. A high percentage is found in the cigarette division of the tobacco industry and in the leather industry, whereas a small percentage is found in the dairy products and chemical industries.

Straddlerocke Products Corporation's inventory was 48.1 per cent of total current assets, compared to 52.0 per cent and 56.2 per cent, respectively.

Inventory/net sales. The extent to which inventory affects the liquidity of the current ratio may be tested by "Inventory/net

sales" and by "Net sales/inventory." The purpose of "Inventory/net sales" is to determine to what extent the company is tying up more or less working capital in inventory. If the increase in the current ratio has been due to increased inventory, the question arises: Has the increase in inventory been due to increased volume of sales or to overstocking of inventory? In the situation shown here, the current ratio has increased from 2.4 to 3.0. The increase

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------|---------------------|---------------------|
| Net Sales | \$50,000,000 | \$50,000,000 |
| Current Assets: | | |
| Cash | 2,000,000 | 2,000,000 |
| Receivables | 5,000,000 | 5,000,000 |
| Inventory | 8,000,000 | 5,000,000 |
| Total | <u>\$15,000,000</u> | <u>\$12,000,000</u> |
| Current Liabilities | 5,000,000 | 5,000,000 |
| Current Ratio | 3.0 | 2.4 |
| Inventory/Net Sales | 16% | 10% |

in the current ratio has been due solely to the increase in inventory. Relative to net sales, however, inventory has increased from 10 per cent to 16 per cent.

In the instance of Straddlerocke Products Corporation, the current ratio was 3.9 this year compared to 3.1 last year, and 2.4 the previous year.

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------------|------------------|------------------|-------------------|
| Net Sales | \$897,675,545 | \$986,403,723 | \$897,323,456 |
| Inventory | \$ 80,124,230 | \$ 89,711,688 | \$ 86,168,154 |
| Current Ratio | 3.9 | 3.1 | 2.4 |
| Inventory/Net Sales | 8.9% | 9.1% | 9.6% |

The rise in the current ratio this year was not caused by an increase in inventory—which, in fact, decreased both in amount and relative to sales.

Any substantial increase in inventory should be examined in the light of the prospective trend in inventory prices. A company which goes into a period of declining inventory prices with a large inventory faces the danger of inventory loss. On the other hand, a large inventory in the face of possible rising inventory prices may prove to be most advantageous.

Net sales/inventory. The inventory turnover "Net sales/inventory" is a velocity relationship which seeks to determine how often raw materials and finished goods have been converted into sales during the year. Though the inventory turnover is more accurately measured by the ratio "Cost of goods sold/inventory," the fact that most corporate reports do not state "Cost of goods sold"

makes it necessary for practical purposes to use "Net sales." The inventory turnover is significant for three reasons. One, an opportunity for a profit arises every time a dollar of capital invested in inventory is turned over through sale, and hence the more rapid the rate of turnover, the greater are the profit possibilities. Two, the more rapid the turnover, the less is the capital invested in inventory and, as a result, there is less chance of loss through obsolete material. Three, the more rapidly the inventory is turned over, the more closely it approaches a cash position and the lower is the current ratio upon which the company can safely operate. On the other hand, the lower the rate of turnover, the greater is the current ratio required for safe operation.

Straddlerocke Products Corporation, for example, had net sales of \$897,675,545 and inventory of \$80,124,230; the inventory turned over 11.2 times ($\$897,675,545/\$80,124,230$). This compares with a turnover of 10.9 times and 10.4 times, respectively.

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------|------------------|------------------|-------------------|
| Net Sales | \$897,675,545 | \$986,403,723 | \$897,323,456 |
| Inventory..... | \$ 80,124,230 | \$ 89,711,688 | \$ 86,168,154 |
| Net Sales/Inventory..... | 11.2 | 10.9 | 10.4 |

Liquidity of current position. The liquidity of the current position may be further tested by three supplementary ratios: "Quick ratio," "Cash and marketable securities/current liabilities," and "Cash/current liabilities."

Quick ratio. On the theory that inventory is the least liquidable current asset, the quick ratio eliminates it in considering the current assets available to satisfy the current liabilities. The ratio is calculated as "Cash, marketable securities, and receivables/current liabilities." This ratio is frequently referred to as the "acid test" and seeks to present an estimate of the immediate ability of the company to satisfy current liabilities. It is based on the assumption that in an emergency cash may be obtained readily by hypothecating the receivables and by selling the marketable securities. The quick ratio for Straddlerocke Products Corporation was 2.0 times ($\$86,417,710/\$42,477,249$) computed as follows:

| | |
|----------------------------|---------------------|
| Cash..... | \$45,649,425 |
| Marketable Securities..... | 7,943,146 |
| Receivables..... | 32,825,139 |
| Total Quick Assets..... | <u>\$86,417,710</u> |

The quick current assets could satisfy the current liabilities 2.0 times, which compared with 1.4 times and 1.1 times, respectively.

Cash basis. The other two ratios seek to measure the liquidity of the current ratio on a purely cash basis. In the instance of Straddlerocke Products Corporation, the test of "Cash and marketable securities/current liabilities" revealed a ratio of 1.2 times, compared to 0.8 times and 0.5 times, respectively. The test of "Cash/current liabilities" showed a ratio of 1.0 times compared to 0.7 times and 0.4 times, respectively.

Summary.

STRADDLEROCKE PRODUCTS CORPORATION

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Net working capital. | \$124,064,691 | \$116,001,877 | \$90,228,635 |
| Net sales/net working capital (times). | 7.23 | 8.50 | 9.94 |
| Current assets/Current liabilities | 3.9 | 3.1 | 2.4 |
| Receivables: | | | |
| Rec./Current assets | 19.7% | 21.4% | 23.8% |
| Rec./Net sales | 4.0% | 4.1% | 4.5% |
| Net sales/Rec. (times) | 24.9 | 24.4 | 22.4 |
| Inventory: | | | |
| Inven./Current assets | 48.1% | 52.0% | 56.2% |
| Inven./Net sales | 8.9% | 9.1% | 9.6% |
| Net sales/Inventory (times) | 11.2 | 10.9 | 10.4 |
| C.A. — Inven./C.L. (times) | 2.0 | 1.4 | 1.1 |
| Cash + Sec./C.L. (times) | 1.2 | 0.8 | 0.5 |
| Cash/Current liabilities (times) | 1.0 | 0.7 | 0.4 |

Review Questions

1. What is meant by solvency of a company?
2. Name the sources of working capital.
3. Indicate the factors involved in the measurement of net working capital.
4. Discuss the relative importance of working capital in the analysis of a railroad, a public utility, and an industrial company.
5. Comment on the following working capital position of a railroad on December 31 of this year:

| | |
|--|---------------|
| Cash. | \$ 43,001,365 |
| Temporary cash investments | 162,446,023 |
| Total current assets. | 279,222,205 |
| Total current liabilities | 79,919,994 |
| Funded debt | 319,891,870 |
| Funded debt maturing July 1 of next year | 100,000,000 |

6. Discuss the causes of inadequate working capital.
7. Explain the remedies for inadequate working capital.
8. Explain the calculation and significance of working capital turnover.
9. Explain the calculation and significance of current ratio.
10. Comment on the current ratio of each of the following companies:

| | <i>Company A</i> | <i>Company B</i> |
|---------------------------|------------------|------------------|
| Current assets | \$400,000 | \$700,000 |
| Current liabilities | <u>200,000</u> | <u>500,000</u> |
| Net working capital | \$200,000 | \$200,000 |

11. Comment on the following statement:

| | <i>This Year</i> | <i>Last Year</i> |
|------------------------------|-------------------|-------------------|
| Current assets | \$92,120,143 | \$80,784,206 |
| Current liabilities. | <u>26,194,927</u> | <u>15,540,529</u> |
| Net working capital. | \$65,925,216 | \$65,243,677 |

12. Explain the theory underlying the 2-to-1 minimum current ratio.
13. Discuss the limitations to the analytical use of current ratio.
14. Indicate the nature of current liabilities.
15. Distinguish between accounts payable and notes payable.
16. Contrast accrued expenses with accounts and notes payable.
17. Indicate the relation of deferred income to current assets.
18. Indicate the relation of currently due funded debt to current assets and to sinking funds.
19. Discuss the methods of reporting United States Treasury Tax Notes as an offset to provision for federal taxes.
20. Indicate the basic function of the current assets.
21. Discuss the characteristics, nature, function, and valuation of marketable securities.
22. Indicate the relation of receivables to cash and marketable securities from the viewpoint of liquidity.
23. Discuss the problem of valuation of receivables.
24. Distinguish between accounts and notes receivable.
25. Explain the purpose of the reserve for doubtful accounts.
26. Account for variation in the percentage of receivables to current assets in different companies.
27. Explain the relation of receivables to the liquidity of the current ratio.
28. Contrast inventory on the one hand and cash and receivables on the other from the viewpoint of liquidity.
29. Name the classes of inventory.
30. Explain the meaning of and the fundamental principle underlying the valuation of inventory at "lower of market or cost."
31. Distinguish between the "first-in, first-out" and "last-in, first-out" methods of determining cost of inventory.
32. Explain why rising costs of leaf tobacco are not reflected immediately in the operating results in tobacco companies.
33. Account for variation in the percentage of inventory to current assets in different companies.
34. Explain the relation of inventory to the liquidity of the current ratio.
35. Explain the calculation and significance of the "quick" ratio.
36. Discuss the significance of the ratio "Cash and marketable securities/current liabilities" and "Cash/current liabilities."

Assignment

- (a) Analyze the working capital position of a company from the following data:

| | <i>This Year</i> | <i>Last Year</i> |
|---------------------------------------|------------------|------------------|
| Current Assets: | | |
| Cash..... | \$15,410,000 | \$14,529,000 |
| U. S. Treasury Short-term Notes . . . | 13,627,000 | 7,195,000 |
| U. S. Treasury Savings Notes... . | 10,250,000 | 5,106,000 |
| Receivables | 13,846,000 | 16,100,000 |
| Less: Reserve | 903,000 | 815,000 |
| | 12,943,000 | 15,285,000 |
| Inventory..... | 19,433,000 | 22,135,000 |
| Total Current Assets | \$71,663,000 | \$64,250,000 |
| Current Liabilities: | | |
| Notes Payable to Banks. | \$ 500,000 | \$ 500,000 |
| Accruals | 6,956,000 | 6,073,000 |
| Reserve for Federal Taxes..... | 10,404,000 | 7,422,000 |
| Total Current Liabilities | \$17,860,000 | \$13,995,000 |
| Net Sales | \$124,058,000 | \$114,648,000 |

- (b) Compute the balance-sheet cost of inventory under the "first-in, first-out" method and under the "last-in, first-out" method, assuming that the inventory on hand at the end of the year contains 25,000 units and that the record of most recent purchases is:

| | |
|--------------------|-----------------------|
| Sept. 10 | 6,000 units at \$3.50 |
| Oct. 5 | 7,000 units at 3.00 |
| Nov. 12. | 8,000 units at 2.25 |
| Nov. 24 | 4,000 units at 2.75 |
| Dec. 27 | 2,000 units at 3.20 |

- (c) Compute the current ratio in each year and account for the change:

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------|------------------|------------------|
| Current Assets: | | |
| Cash..... | \$ 4,700,000 | \$ 3,500,000 |
| Accounts Receivable | 7,100,000 | 8,600,000 |
| Inventory..... | 139,100,000 | 138,200,000 |
| Total. | \$150,900,000 | \$150,300,000 |
| Current Liabilities: | | |
| Notes Payable. | \$ 4,400,000 | \$24,500,000 |
| Accounts Payable. | 2,800,000 | 3,000,000 |
| Accruals. | 7,500,000 | 8,000,000 |
| Total..... | \$14,700,000 | \$35,500,000 |
| Funded Debt. | \$20,000,000 | none |

- (d) Compute the current ratio on the basis of the following data of an aircraft manufacturing company and account for the change:

| | <i>This Year</i> | <i>Last Year</i> |
|---------------------------|------------------|------------------|
| Current Assets: | | |
| Cash..... | \$30,000,000 | \$ 4,600,000 |
| Securities..... | 7,400,000 | 6,200,000 |
| Receivables..... | 3,800,000 | 4,100,000 |
| Inventory..... | 11,900,000 | 8,000,000 |
| Total..... | \$53,100,000 | \$22,900,000 |
| Current Liabilities: | | |
| Accounts Payable. | \$ 4,000,000 | \$1,200,000 |
| Accruals | 2,100,000 | 800,000 |

| | | |
|---------------------------------------|---------------------|--------------------|
| Taxes | 1,900,000 | 1,000,000 |
| Advances on Sales Contracts | 26,400,000 | <u>1,200,000</u> |
| Total | <u>\$34,400,000</u> | <u>\$4,200,000</u> |

- (e) On the basis of the following data, account for the issuance of rights to stockholders at the close of "Last Year":

| | <i>This Year</i> | <i>Last Year</i> | <i>Previous Year</i> |
|-----------------------|----------------------|----------------------|----------------------|
| Sales | <u>\$361,297,059</u> | <u>\$293,042,357</u> | <u>\$249,805,721</u> |
| Current Assets: | | | |
| Cash | \$ 17,130,892 | \$ 15,220,171 | \$23,999,615 |
| Securities | 49,110 | 153,148 | 1,938,485 |
| Receivables | 44,355,143 | 33,659,388 | 20,475,022 |
| Inventory | 87,174,188 | 65,435,102 | <u>53,184,318</u> |
| Total | <u>\$148,709,333</u> | <u>\$114,467,809</u> | <u>\$99,597,440</u> |
| Current Liabilities | \$ 29,885,833 | \$ 17,631,525 | \$13,881,251 |

- (f) Does the following data indicate an improvement in the working capital position of the company? Explain.

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------|------------------|------------------|
| Current Assets | \$50,818,102 | \$40,654,482 |
| Current Liabilities | 23,203,310 | 13,551,494 |

CHAPTER EIGHTEEN

MAINTENANCE AND DEPRECIATION

Introduction. Operating expenses represent the expenses incurred in securing the operating revenues or net sales. These expenses include the cash item of maintenance and the non-cash item of depreciation.

Maintenance. Maintenance expense is the expenditures made to keep the property, plant, and equipment in good operating condition. Such cash expenditures for current maintenance include repairs, renewals, and replacements. Repairs consist of the expenses incurred in putting the asset in operating condition when it reaches a state of inefficiency which ordinary maintenance expenditures have been unable to prevent. Repairs may be classed as ordinary or extraordinary. Ordinary repairs should be charged directly to operating expenses or to a reserve previously set up for that purpose out of earnings. Extraordinary repairs may be distinguished from ordinary repairs in that they are so extensive in nature as to make good the depreciation and to extend the life of the asset beyond the originally estimated life. Extraordinary repairs may be charged to the reserve for depreciation because they make good a portion of the deterioration represented by the reserve. In other words, they extend the period during which the reserve must be built up to the required amount. If repairs do not maintain the asset in efficient operating condition, it may be necessary to replace some part of the asset (renewal) or the whole asset (replacement).

Railroad. Railroad maintenance is the continual repair and renewal by which the many parts of the railroad's operating assets are kept in first-class operating condition. The maintenance expenses are classed as maintenance of way and structures and of equipment. Norrester & West Railway, for example, reported maintenance as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------|----------------------|----------------------|----------------------|
| Maintenance: | | | |
| Way and Structures..... | \$42,276,634 | \$47,440,969 | \$44,821,207 |
| Equipment. | 57,761,735 | 63,004,966 | 55,944,918 |
| Total... . | <u>\$100,038,369</u> | <u>\$110,445,935</u> | <u>\$100,766,125</u> |

Maintenance charges as reported by a railroad include (a) actual expenditures for repairs to roadway property, rolling stock, and motive power and (b) charges for depreciation and depletion, amortization and retirements. A breakdown of the total maintenance charge of the Norrester & West Railway was as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------|----------------------|----------------------|----------------------|
| Way & Structures: | | | |
| Maintenance | \$38,944,119 | \$44,034,919 | \$41,633,195 |
| Depreciation... .. | 3,332,515 | 3,406,050 | 3,188,012 |
| Total... .. | <u>\$42,276,634</u> | <u>\$47,440,969</u> | <u>\$44,821,207</u> |
| Equipment: | | | |
| Maintenance..... | \$42,649,466 | \$49,800,308 | \$43,776,030 |
| Depreciation..... | 15,112,269 | 13,204,658 | 12,168,888 |
| Total..... | <u>\$57,761,735</u> | <u>\$63,004,966</u> | <u>\$55,944,918</u> |
| Total... .. | <u>\$100,038,369</u> | <u>\$110,445,935</u> | <u>\$100,766,125</u> |

Maintenance of way refers to expenditures made for repairing roadways (replacing ties and rails), for track laying and surfacing, and for repairing bridges, trestles, and culverts. Maintenance of structures includes expenditures on such assets as stations, shops, and engine houses. Maintenance of equipment refers to expenses incurred in the repairing of locomotives, freight cars, and passenger cars.

The large amount of fixed assets of a railroad consist of many thousands of individual pieces of property all of which suffer annually substantial wear and tear and obsolescence. Rails and ties, cars and engines wear out with use as much as with age. Ballast consists of gravel, crushed rock, and cinders placed on the roadbed to drain water away from the ties, to spread the load over softer subgrades, to provide an even bearing for the ties, to hold ties more firmly in place, and to check the growth of grass and weeds. Ballast is pounded down and ground up by a heavy volume of traffic. Each year some items of road, structure, and equipment must be discarded and replaced. This annual replacement of units of property is known as maintenance. This year the Norrester & West Railway made cash expenditures of \$38,944,119 for maintenance of way and structures and of \$42,649,466 for maintenance of equipment.

Maintenance policy. The maintenance policy of a railroad is influenced by the physical condition of the property, the volume of traffic, and the managerial financial policy. Obviously, a railroad property that is in good physical condition requires less maintenance than one that is in poor condition. By the same token, an increased volume of traffic results in greater wear and tear on the road and equipment and thus necessitates more maintenance. Railroad maintenance may be divided into two general classifications: deferred and current. Deferred maintenance represents maintenance that ordinarily would be undertaken during the current year but is deferred to a later period. Current maintenance consists of currently necessary maintenance and of previously deferred maintenance that is now being undertaken. Under ordinary circumstances, railroads are not permitted to charge operating expenses of one year with maintenance work to be performed in a later year.¹ Maintenance is therefore customarily modified in accordance with current earning power, many roads tending to undermaintain in periods of low earnings and to overmaintain in periods of large earnings. To reduce operating expenses during a period of poor earnings, railroads sometimes defer some currently desirable maintenance to a later period. Although this policy reduces the current expenditures and bolsters up current operating income, it places a greater burden upon the earnings of future periods. Railroads may postpone but they cannot indefinitely escape necessary maintenance.

Adequacy of maintenance: way and structures. It is impractical to measure the adequacy of the maintenance of way and structures expenditures solely in terms of dollars, since maintenance costs vary between different periods for the same railroad and between different railroads for the same period. The two factors influencing those variations are cost of labor and materials and the character of the road. Wages and materials costs fluctuate from year to year and also may vary in different sections of the country during the same year. Differences in the character of two roads also may account for differences in maintenance costs. A road with greater traffic density, extra tracks, carrying high-grade traffic, serving mountainous territory, or subject to severe

¹ Partly because of shortages in basic materials, however, this rule was temporarily rescinded in 1942 to permit charging to operating expenses sums reserved for maintenance but not spent. Few railroads made such charges, however, since the charges were not deductible for tax purposes.

weather conditions incurs greater maintenance costs. A very high traffic density results in considerable wear and tear on railroad facilities. The maintenance of extra tracks increases the maintenance per mile of road. A mile of road, for instance, may embrace several miles of tracks—two, three or more parallel tracks, sidings, spur tracks, and yard tracks. There are some 30,000 miles of railroad in the country consisting of two or more parallel tracks. High-grade traffic requires speed in transportation and therefore needs a better roadbed than low-grade slow-moving traffic. Roads which serve mountainous territory and hence are faced with severe grades and curves, such as the Western Pacific Railroad, must expend more for maintenance than roads serving more level territory. The grade of a track is the rate of ascent or descent or the extent to which the track deviates from a level surface. On the basis of a zero grade for a perfectly level track, an ascent of two feet in 100 feet of track length is known as a 2 per cent ascending grade. Roads subject to severe weather conditions, such as New York Central, the New Haven, the Milwaukee, and the Chicago & North Western, must expend large sums for removing snow and ice. Snow gets into wheel journals and causes hot boxes; it congeals along tracks and makes wheels slip and go flat; it piles into drifts and blocks the passage of trains; and it interferes with the operation of classification yards. The New York Central Railroad normally runs its snow cars 13,000 to 17,000 miles annually on the St. Lawrence division alone. In a recent year it spent \$3,090,961 to remove snow and ice from the tracks of the system.

The adequacy of maintenance of way and structures must be measured by comparing the expenditure to some yardstick. Several yardsticks may be used for this purpose: (a) the volume of traffic, in terms of operating revenues and of ton-miles; (b) the way and structures to be maintained, in terms of miles of road, of miles of track, and of equated track-miles; and (c) traffic density, in terms of revenue train-miles.

Maintenance/operating revenues. The operating revenues may be taken as a financial measurement of the volume of traffic and the relationship expressed by the ratio "Maintenance/operating revenues." In the instance of the Norrestern & West Railway, maintenance expenditures for way and structures of \$38,944,119 this year represented 14.2 per cent of operating revenues compared to 13.1 per cent last year and 13.2 per cent the previous year. The

railroad, therefore, was expending an increasing percentage of its operating revenues for maintenance of way and structures.

The freight ton-miles may be taken as a physical measurement of the volume of traffic and the relationship expressed by the ratio "maintenance/freight ton-miles." With 25,738,965,000 freight ton-miles this year, expenditures for maintenance of way and structures represented 1.51 mills per freight ton-mile compared to 1.22 mills last year and 1.06 mills the previous year. In terms of physical volume of traffic the railroad's annual expenditure for maintenance of way and structures was also increasing.

Maintenance per mile of road. The total way and structures to be maintained may be measured in terms of miles of road operated and the relationship expressed as "maintenance per mile of road." The average number of miles operated is used rather than the number of miles owned, since the income statement is based upon the former. For example, the Illinois Central Railroad recently reported total mileage operated as of December 31 of 6,581.15 compared to 6,582.00 as of December 31 of the previous year, for an average mileage operated during the year of 6,581.57. The changes in the mileage operated may be caused by abandonment and removal of mileage or by rearrangement of track. Inasmuch as the Norrester & West Railway charged \$38,944,119 for maintenance of way and structures and operated an average of 5,109.01 miles of road, maintenance charges were at the rate of \$7,622 per mile. When compared to \$8,671 and \$8,232 spent in other years, it reflected a smaller annual expenditure.

The measurement of maintenance per mile of road operated, however, does not give full consideration to the number and kinds of tracks operated. For instance, maintenance costs are heavier on a main-line track than on a branch-line track; hence the larger the proportion of main-line track in a system, the higher are the necessary maintenance expenditures per mile. The Chicago, Burlington & Quincy Railroad, for example, operates 9,024 miles of road of which 8,486 miles are owned directly. The owned mileage consists of 4,660 miles classified as main line and 3,826 miles classified as branches. Similarly, double-tracking results in an increase in necessary maintenance per mile. The Norrester & West Railway, for example, operated 5,109.01 miles of road. Much of the main line and some of the lateral lines, however, were double-tracked. The total of all tracks was 9,842.34 miles and consisted of:

| | |
|------------------------------|-----------------------|
| First track | 4,518.48 |
| Second track. | 890.84 |
| Third track. | 36.60 |
| Fourth track. | 7.36 |
| Tracks used jointly. | 952.69 |
| Yards and sidings | 3,436.37 |
| | <u>9,842.34 miles</u> |

On the basis of total trackage, maintenance per mile was at the rate of \$3,956 this year compared to \$4,532 last year and \$4,275 the previous year.

Maintenance per equated track-mile. The differences in maintenance costs, however, are more accurately considered by the use of a weighted figure known as maintenance "per equated track-mile." The calculation recognizes the fact that the cost of maintaining additional track in a mile of road is only a fraction of the cost of maintaining one mile of main line single track. This additional cost is calculated at the rate of 70 per cent for each extra mile of main track and of 50 per cent for each extra mile of other track. In the instance of Norrestern & West Railway the total miles of track were equivalent to 7,358 equated track-miles calculated as follows:

| | <i>Track-miles</i> | <i>Equated track-miles</i> |
|-----------------------|-----------------------|----------------------------|
| First track. | 4,518.48 \times 1.0 | 4,518.48 |
| Second track. | 890.84 \times 0.7 | 623.59 |
| Other track. | 4,433.02 \times 0.5 | 2,216.51 |
| | | <u>7,358.58</u> |

With maintenance of way and structures of \$38,944,119 and 7,358.58 equated track-miles, the rate for Norrestern & West Railway this year was \$5,292 compared to \$5,984 last year and \$5,658 the previous year.

Maintenance per revenue train-mile. In order to give recognition to traffic density, however, it is more appropriate to measure maintenance of way and structures in terms of revenue train-miles which is based upon the movement of one revenue train one mile. In the instance of Norrestern & West Railway, with maintenance of way and structures of \$38,944,119 and total revenue train-miles of 21,198,534 this year, maintenance was at the rate of \$1.83 per revenue train-mile compared to \$1.64 last year and \$1.47 the previous year.

Adequacy of maintenance: equipment. Since equipment provides the direct source of revenues, the maintenance of it in good condition is equally important. The adequacy of maintenance of

equipment may be measured in relation to the volume of traffic and to the equipment to be maintained. Ordinarily, expenditures for maintenance of equipment vary even more directly with traffic than maintenance of way and structures. Obviously, a more intensive use of equipment in order to handle an increased volume of traffic requires greater expenditures for repairs. The amount expended for maintenance also depends upon the age and condition of the equipment in use. Extensive purchasing of new equipment ordinarily lowers the necessary maintenance expenses for the first few years after purchase. On the other hand, the longer equipment has been in use, the greater is the need for continuous maintenance.

The hire of equipment and the maintenance of equipment charges are closely related. A railroad that originates little traffic of its own and that therefore receives most of its traffic from other railroads will generally have a small amount of equipment in relation to its total traffic. Its maintenance of equipment charge will be relatively low since by the very nature of its operations it uses the equipment of other railroads that perform the maintenance. Its hire of equipment charge, however, will be relatively high. The New York, Chicago and St. Louis Railroad (Nickel Plate), for example, originates only about 25 per cent of its traffic. The greater part of the traffic is received from other roads, particularly the coal traffic destined for Chicago, which it picks up from the Chesapeake & Ohio at Fostoria, Ohio; in addition it has important connections at Buffalo, Toledo, Detroit, and St. Louis and these account for the large amount of traffic it receives from other roads. The Nickel Plate's maintenance ratio is quite low; this does not mean, however, that it is undermaintaining the property. On the other hand, its hire of equipment rentals are unusually high in relation to the size of the system, since so much of its traffic is carried in cars it picks up from connections with other railroads. Likewise, its investment in equipment is relatively small. This year the Norrestern & West Railway expended \$42,649,466 for maintenance of equipment.

Maintenance/operating revenues. The ratio of maintenance of equipment to operating revenues shows the percentage of operating revenues devoted to maintenance of equipment. It gives some indication whether the company is following a liberal policy or is skimping on maintenance. For the Norrestern & West Railway, maintenance of equipment expenditures represented 15.5 per cent

of operating revenues this year, compared to 14.8 per cent last year and 13.9 per cent the previous year.

Serviceable equipment. An additional check upon the maintenance of equipment is found in the report on the condition of the equipment, which indicates the equipment in good order and the equipment in need of repairs. Analysis of the condition of the equipment of the Norrestern & West Railway indicated the following:

UNSERVICEABLE EQUIPMENT—PER CENT

| | <i>Locomotives</i> | | <i>Cars</i> | | <i>Number of</i> |
|---------------------|--------------------|------------------|----------------|------------------|---------------------------|
| | <i>Freight</i> | <i>Passenger</i> | <i>Freight</i> | <i>Passenger</i> | <i>Diesel Locomotives</i> |
| Previous Year. | 8.6 | 2.4 | 0.9 | 3.4 | 27 |
| Last Year. | 10.0 | 4.3 | 1.4 | 1.3 | 45 |
| This Year. | 20.5 | 21.4 | 6.2 | 2.0 | 130 |

A standard maximum of unserviceable equipment sometimes assumed is 15 per cent for locomotives and 6 per cent for cars. In general, an increase in the percentage of unserviceable equipment of a railroad indicates two unfavorable situations: (a) an accumulation of deferred maintenance that will have to be absorbed in the maintenance expense of subsequent years, and (b) the possibility of having to spend large amounts for hire of equipment. In specific instances, on the other hand, an increase in the percentage of unserviceable locomotives may be the result of increased utilization of Diesel power which thereby permits the railroad to store steam locomotives for emergency use. The Diesel locomotive has the distinct advantage of less frequent maintenance. This has been the situation in Norrestern & West Railway which increased the number of Diesel locomotives from 27 to 45 last year and to 130 this year, each locomotive having an average age of approximately one year. The increased percentage of unserviceable freight cars, however, indicated the need for an accelerated car repair program. On the other hand, the passenger car situation showed improvement over that of two years ago.

Total maintenance. A comprehensive criterion of maintenance policy is measured by the total maintenance expense ratio. This ratio represents the relation between the aggregate expenditure for maintenance of way and structures and of equipment on the one hand and the operating revenues on the other. The total maintenance expended by the Norrestern & West Railway for way and structures and for equipment amounted to \$81,593,585 this year, \$93,835,227 last year, and \$85,409,225 the previous year, or

29.7 per cent, 27.9 per cent, and 27.1 per cent, respectively, of operating revenues.

Although a high maintenance ratio for a railroad might be interpreted as possibly indicative of excessive maintenance, it may on the other hand reflect a program of property rehabilitation. For example, the maintenance ratio of the St. Louis-San Francisco Railway for 1932-1940 averaged 35.2 per cent of operating revenues. This was a reflection, however, of the program of property rehabilitation followed by the trustee during the period. The Missouri-Kansas-Texas Railroad during the period 1940-1944 had an average total maintenance ratio of 32.8 per cent, the ratio rising from 28.7 per cent in 1940 to 36.1 per cent in 1944. A large part of the maintenance expenditures, however, represented capital improvements rather than ordinary maintenance.

Public utility. Current maintenance, as reported by a public utility company, represents cost of inspection, repairs, and rearrangements required to keep the plant and equipment in good operating condition. The adequacy of maintenance in the analysis of public utility companies is measured in terms of volume of business as indicated by operating revenue. In the instance of the Turbine Electric Light Company, with maintenance of \$842,070 and operating revenue of \$16,285,056, maintenance represented 5.2 per cent of operating revenue, compared with 4.5 per cent and 4.8 per cent, respectively. In general, maintenance expenses average about 7 per cent of operating revenue in electric light and power companies.

Industrial. There is no uniformity among industrial companies in reporting maintenance expenses. Although some companies report the amount as a separate item in the income statement, the usual practice is to include it in the total amount reported as operating expenses. In some instances, however, where it is included in the operating expenses item, the specific amount of operating expenses expended for maintenance is reported as a note accompanying the income statement. Straddlerocke Products Corporation, for example, in its report did not reveal the amount expended for maintenance in its statement of operating expenses but reported the amount separately in the president's remarks as \$20,788,888 this year, compared with \$19,824,739 and \$19,286,125, respectively.

During periods of depression, industrial companies with strong working capital positions usually undertake extensive programs of maintenance and repair, especially with respect to parts of the plant

to which they can give little attention in periods of great activity. On the other hand, companies with weak working capital are obliged to postpone necessary maintenance until earnings are again adequate to provide the funds.

The usual ratio for measuring adequacy of maintenance is by a comparison with net sales. In the instance of Straddlerocke Products Corporation, maintenance represented 2.3 per cent of net sales this year, compared to 2.0 per cent and 2.1 per cent, respectively.

Depreciation. Depreciation is the loss in value of a replaceable or reproducible tangible asset. The United States Treasury Department has described depreciation as follows:

The necessity for a depreciation allowance arises from the fact that certain property used in the business gradually approaches a point when its usefulness is exhausted. . . . In the case of tangible property, it applies to that which is subject to wear and tear, to decay or decline from natural causes, to exhaustion and to obsolescence due to the normal progress of the art, as where machinery or other property must be replaced by a new invention, or due to the inadequacy of the property to the growing needs of the business. It does not apply to inventories or to stock in trade, nor to land apart from the improvements or physical development added to it.

As one writer puts it:² "All machinery is on an irresistible march to the junk heap, and its progress, while it may be delayed, cannot be prevented by repairs." The United States Supreme Court in *Lindheimer v. Illinois Bell Telephone Company*, 292 U. S. 151 (1934) defined depreciation as ". . . the loss, not restored by current maintenance, which is due to all the factors causing the ultimate retirement of the property. These factors embrace wear and tear, decay, inadequacy, and obsolescence." The Committee on Terminology of the American Institute of Accountants has described depreciation accounting as follows:

Depreciation accounting is a system of accounting which aims to distribute the cost or other basic value of tangible assets, less salvage (if any), over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner. It is a process of allocation, not of valuation. Depreciation for the year is the portion of the total charge under such a system that is allocated to the year. Although the allocation may properly take into account occurrences during the year, it is not intended to be a measurement of the effect of all such occurrences.

The assets subject to continuous depreciation are such fixed assets as buildings, machinery, and equipment. Land, however, is not considered as subject to depreciation.

² Henry R. Hatfield, *Accounting: Its Principles and Problems*, New York, D. Appleton and Company, 1928, page 130.

The cost of a fixed asset represents a lump sum prepayment for the services which the asset will render during its service life. At the end of each year of its service life, an equitable portion of its full cost constitutes an indirect cost of operation that is chargeable to the period receiving the service. The service life of the asset may be shortened, however, by the additional factor of obsolescence, which may cause the asset to be abandoned prior to the end of its normal useful life. For example, equipment may be discarded before the end of its period of physical usefulness because of (a) subsequent improvements in methods, machines, formulae, or processes, or (b) changes in demand for the product. Under those conditions the usual normal depreciation charges may prove inadequate to write off the asset completely at the time of abandonment and an additional charge must be made for obsolescence. Although replacements tend to keep pace with obsolescence in good times, companies tend to limit replacements in poor times, with the result that obsolescence accelerates.

Depreciation and maintenance. Depreciation is closely related to maintenance. No unit of property will remain long in serviceable condition without maintenance. By the same token, even with maintenance, depreciation takes place with the result that the asset will ultimately reach a point where its service efficiency no longer can be maintained. A company that owns and operates a fleet of trucks must keep them in running condition daily. The costs of new tires, recharging the batteries, painting, and mechanical repairs, are all maintenance costs. Despite this day-to-day work on the trucks, the company must provide also for depreciation. Adequate maintenance, however, may reduce the rate of depreciation. A liberal maintenance policy may not only improve the efficiency of the asset but may also assure it a longer service life. The United States Bureau of Internal Revenue has explained a reasonable rate for depreciation as "dependent not only on the prospective useful life of the property when acquired, but also on the particular conditions under which the property is used as reflected in the taxpayer's operating policy and the accounting policy followed with respect to repairs, maintenance, replacements, charges to the capital account and to the depreciation reserve."

Annual depreciation. The three basic factors in the determination of the annual depreciation charge on an asset are the cost of the asset, the estimated serviceable life of the asset, and the residual value of the asset. On a straight-line basis the annual depreciation

charge on an asset that cost \$50,000 and that has an estimated service life of ten years and a scrap value of \$5,000, is \$4,500 calculated as follows:

$$\begin{aligned} \$50,000 \text{ (cost)} - \$5,000 \text{ (scrap value)} &= \$45,000 \text{ (depreciable value)} \\ \$45,000 \text{ (depreciable value)} / 10 \text{ (service life)} &= \$4,500 \text{ (annual depreciation)} \end{aligned}$$

At the end of the first year annual depreciation of \$4,500 is charged to income and credited to depreciation reserve thus showing a net depreciation value of \$45,500 for the asset. By the end of the tenth year, \$45,000 will have been accumulated in the depreciation reserve providing for the total loss in value of the asset over the ten-year period.

| <i>End of</i> | <i>Original Cost</i> | <i>Annual Depreciation</i> | <i>Depreciation Reserve</i> | <i>Net Depreciated Value</i> |
|---------------|--------------------------|--------------------------------|---------------------------------|----------------------------------|
| 1 year | \$50,000 | \$4,500 | \$ 4,500 | \$45,500 |
| 2 | 50,000 | 4,500 | 9,000 | 41,000 |
| 3 | 50,000 | 4,500 | 13,500 | 36,500 |
| 4 | 50,000 | 4,500 | 18,000 | 32,000 |
| 5 | 50,000 | 4,500 | 22,500 | 27,500 |
| 6 | 50,000 | 4,500 | 27,000 | 23,000 |
| 7 | 50,000 | 4,500 | 31,500 | 18,500 |
| 8 | 50,000 | 4,500 | 36,000 | 14,000 |
| 9 | 50,000 | 4,500 | 40,500 | 9,500 |
| 10 | 50,000 | 4,500 | 45,000 | 5,000 |
| | | <u>\$45,000</u> | | |

The cost of the asset, which is the maximum value the asset can surrender, is a matter of record. The serviceable life and the scrap value, however, are matters of judgment and at best are estimates.

The depreciation schedule of a company may be based upon a unit rate or a composite rate. Under the unit rate, each individual asset is considered separately and an appropriate rate of depreciation established for it. The composite rate, on the other hand, is applicable to a group of assets having like characteristics and service lives. An appropriate rate of depreciation is applied to the group as a whole. The theory underlying the composite rate is that while some assets in the group may enjoy a service life longer than the average selected for the group, other assets in the group will probably have a shorter service life. The National Dairy Products Corporation, for example, originally followed the unit method of depreciation in respect to all assets except land improvements and buildings. Later, however, it adopted the group composite rate method.

Actual and theoretical depreciation. A distinction may be

made between actual and theoretical depreciation of an asset.³ Actual depreciation refers to the physical deterioration which has actually taken place in an asset up to a given date. The rate of actual depreciation of an asset is usually low during the early years of service life and high during the later years. Theoretical depreciation, on the other hand, refers to the amount of depreciation charged as an operating expense at any given date. It is an estimate of the average periodic loss of depreciable value. While, over the life of the asset, total actual and total theoretical depreciation should agree, they do not necessarily agree at any one time during the life of the asset, with the exception of the last year. If theoretical depreciation were based upon actual depreciation, depreciation charges would be low during the early years when the asset is at its maximum efficiency and high during the later years when the asset is at its minimum efficiency. In practice, however, depreciation charges are intended to spread the depreciable cost of the asset over the period of service life in a more or less equitable fashion.

The investor is not in a position to examine the depreciation rate for each asset nor to judge of its adequacy. He is limited to a consideration of the total assets subject to depreciation and the total depreciation charged. The best he can do is (a) to compare the annual depreciation rate with that used by other companies in the same industry as a basis of judging adequacy or inadequacy of the total annual depreciation charge and (b) to determine whether the company has altered its depreciation policy by increasing or reducing the total annual depreciation charge relative to the assets being depreciated.

Significance of depreciation. Depreciation is significant to the investor in its relation to the balance sheet and the income statement. The main purpose of the depreciation charge from the standpoint of the balance sheet is to maintain intact the value of the capital invested in the asset. As a credit to the asset, depreciation reduces the asset valuation. The annual depreciation charge results in the retention in the business of some of the income-producing assets. Thus the capital invested in the asset is protected by making stated earnings unavailable for distribution to the stockholders. Charging depreciation as an expense builds up and retains in the business a fund of miscellaneous assets so that

³ H. A. Finney, *Principles of Accounting: Intermediate*, New York: Prentice-Hall, Inc., 1935, page 267.

when the asset is fully depreciated sufficient capital will be available to make possible the replacement of the asset. The annual depreciation charge, therefore, effects a transfer of capital from the fixed assets to other assets and thus maintains the integrity of the capital invested in the fixed assets. From this standpoint the main purpose of the depreciation charge is to prevent the dissipation of capital and to show the unamortized cost of the depreciable assets in the balance sheet.

At the same time, depreciation, as a charge against income, reduces the net income available for distribution to the stockholders. Since depreciation is a cost of operation, its inclusion in operating expenses is necessary in order to determine the correct operating costs and hence the correct net income. The depreciation policy of a company, therefore, is important to the investor in judging the correctness of the statement of asset value and of net income.

Adequacy of depreciation. The adequacy of depreciation is usually measured in relation to the volume of business and to the invested capital subject to depreciation. The depreciation may be related to the volume of business by the ratio "Depreciation/operating revenues or net sales." In view of the fact, however, that depreciation is influenced in part by maintenance, a comprehensive measurement of adequacy of depreciation is determined by the ratio "Maintenance and depreciation/operating revenues or net sales." The latter ratio recognizes the fact that heavy maintenance may reduce the rate of depreciation whereas light maintenance may increase the rate of depreciation.

The depreciation charge may be related also to the fixed asset subject to depreciation by the ratio "Depreciation/gross plant." This ratio indicates the rate at which the depreciable asset is being depreciated. An annual rate of 4 per cent, for example, indicates that the average life of all the items in the gross plant account is taken as twenty-five years. General Electric Company, for example, charged depreciation at an average rate of 8.4 per cent of gross plant, whereas the rate for Westinghouse Electric Corporation during the same period averaged 5.7 per cent.

The extent to which the asset has been depreciated by past charges is measured by the ratio "Depreciation reserve/gross plant." The more liberal depreciation policy of General Electric Company in contrast to that of Westinghouse Electric Corporation was reflected in the fact that the depreciation reserve for the former

was 86.0 per cent of gross plant in one year as against 56.3 per cent for the latter. This ratio should be judged, however, in terms of the reasonableness of the plant account, the promptness with which property is retired when it has reached the end of its useful life, and the character of the plant account.⁴

Railroad. The need of providing for the retirement of railroad equipment is important, since numerous units of equipment are replaced every year as needed. Under Interstate Commerce Commission rules, depreciation of equipment has been compulsory but depreciation of road and structures has been optional. The Hepburn Act of 1906 provided for depreciation of railroad property and authorized the Interstate Commerce Commission to establish rules governing such depreciation. It was not until 1914 that the Commission issued a ruling requiring railroads to depreciate their equipment. The rates of depreciation, however, were optional with the railroads. The Commission established specific rates for certain railroad equipment in 1935 when it set annual rates of about 3 per cent on steam locomotives on the assumption that their life was approximately 35 years, 4 per cent on passenger equipment on an assumed 25-year life, and 4.5 per cent on freight equipment on an assumed life of 22 years. Prior to 1943, retirements of depreciable property were charged to operating expenses or to profit and loss, and retirements of undepreciable property were charged to profit and loss. Effective January 1, 1943, however, railroads were required by the Commission to accrue depreciation upon the cost of road property—bridges, buildings, telegraph and telephone lines, signals and interlockers, and shop and power plant machinery. Under this ruling a percentage of the cost of depreciable property is charged to operating expenses and credited to a depreciation reserve. Retirements of such property are charged to the reserve. In addition, all retirements of undepreciable property are charged to operating expenses. The significance of this change is twofold: (a) it placed a substantial part of the road property upon an accrued depreciation basis similar to equipment, and (b) it should result in an increase in operating expenses and a corresponding decrease in earnings. It is the common practice, however, for railroads to make no substantial provision for depreciation of miscellaneous physical property.

The Norrestern & West Railway reported total depreciation charges of \$18,444,784 this year compared to \$16,610,708 last year

⁴ See Chapter Nineteen on fixed capital.

and \$15,356,900 the previous year. Analysis of these charges revealed the following:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------|------------------|------------------|-------------------|
| Way & Structures: | | | |
| Depreciation..... | \$3,003,090 | \$3,087,845 | \$2,922,056 |
| Amortization.... | 329,425 | 318,205 | 265,956 |
| Total..... | \$3,332,515 | \$3,406,050 | \$3,188,012 |
| Equipment: | | | |
| Depreciation. | \$14,617,233 | \$13,099,906 | \$11,714,141 |
| Retirements ... | 495,036 | 104,752 | 454,747 |
| Total.... | \$15,112,269 | \$13,204,658 | \$12,168,888 |
| Total.... | \$18,444,784 | \$16,610,708 | \$15,356,900 |

The total charge this year of \$3,332,515 to way and structures consisted of \$3,003,090 for depreciation of roadway property and \$329,425 for amortization of special projects on road property. The total charge of \$15,112,269 to equipment consisted of \$14,617,233 for depreciation and \$495,036 for retirements. The retirement of equipment expense represents the book value of the equipment (cost less accrued depreciation) at the time the equipment is retired, less the scrap value.

The charge for depreciation and retirements on equipment made by the Norrester & West Railway represented 5.5 per cent of operating revenues, compared with 3.9 per cent last year and 3.9 per cent the previous year. It represented 3.7 per cent of the investment in equipment this year, compared with 3.4 per cent last year and 3.5 per cent the previous year.

Public utility. Under the systems of accounts recommended since 1936 by the National Association of Railroad and Utilities Commissioners and generally accepted for electric, gas, and telephone companies, depreciation as applied to depreciable utility plant means, "the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance." Service value means the difference between the original cost and the net salvage value of utility plant. Original cost, as applied to the utility plant, refers to the cost of such property to the person first devoting it to public service. Salvage value, on the other hand, means the amount received for property retired, less any expenses incurred in connection with the sale. Net salvage value, therefore, refers to the salvage value of property retired less the cost of removal.

Theoretically, public utility rates should not exceed the cost of the service. The cost of the service includes among other things, the value of the service life of the physical plant and equipment consumed in rendering the service. The customers using the service should pay all of the costs of rendering the service to them, which include paying for the property that has been worn out in rendering the service. The annual depreciation charge affects the operating costs and the rate base and therefore is an important element in rate-making. The accrued depreciation should be deducted from the rate base. This reduction does not deprive the utility of its property but merely denies a return on the exhausted service value for which payment has already been made. In general, regulatory commissions, through the prescription of accounting methods, have assumed jurisdiction over the depreciation practices of utility companies both as to the methods of accounting for depreciation and as to the amount of depreciation.⁵ The Federal Power Commission is authorized to require the public utilities under its jurisdiction to carry adequate depreciation accounts in accordance with such rules and regulations as it may prescribe. In addition, it may determine proper and adequate rates of depreciation for the several classes of property to which each utility company must conform. Similarly, the Federal Communications Commission is authorized to prescribe the classes of property for which depreciation charges may be properly included in operating expenses and the percentages to be charged with respect to each class of property.

Two methods of charging for depreciation have been used by public utility companies: the reserve method and the retirement method. The reserve method makes an annual charge for depreciation which is charged to operations and credited to depreciation reserve. It recognizes depreciation as a cost of operation that should be paid by the consumers who use the service and therefore charges the year's operating expenses with an amount based upon the average life expectancy of the various units of property. The retirement method, on the other hand, makes no annual charge for depreciation but instead charges the cost of the asset, less its scrap value, to operations of the year in which the asset is retired from service. The retirement method assumes that replacements

⁵ A recent report of the Milwaukee Gas Light Company stated: "The provisions for replacement and retirement of the Company's property are made in compliance with depreciation requirements of the Wisconsin statutes and at rates approved by the Public Service Commission of Wisconsin."

are paid for as made, with only such variation as is necessary to equalize the payments from year to year. It contends that a depreciation reserve is unnecessary since the cost of replacements tends to become uniform from year to year. Although a small reserve usually is accumulated, its sole purpose is to equalize the retirement charges from year to year. The Laclede Gas Company uses the retirement reserve method of providing for property retirements the purpose of which is to equalize the burden of retirement losses from year to year and which is in accordance with the Uniform System of Accounts prescribed by the Public Service Commission of Missouri. As the company's report states, "The purpose of this method is to equalize the burden of retirement losses from year to year as nearly as is practicable, and is not to provide accrued depreciation based upon the age and estimated life of the properties."

The essential distinction between the two methods lies primarily in the time at which the charge is made; that is, in annual installments (reserve method) or at the time of retirement (retirement method). The depreciation reserve method has been adopted by the Federal Communications Commission and the Federal Power Commission and by many of the state commissions. The uniform systems of accounts prescribed by federal and state commissions having jurisdiction generally require electric and gas companies to follow the reserve method by recording as of the end of each month the estimated amount of depreciation accrued during that month on depreciable utility plant. The Consolidated Edison Company of New York and the Brooklyn Union Gas Company, for example, used the retirement method until 1938, when the Public Service Commission of the State of New York required them to follow the reserve method. Washington Gas Light Company in 1940 changed from the retirement method to the reserve method.

There are numerous bases upon which the periodical computations can be made under the reserve method, but the principal ones are the straight-line and the sinking fund. The straight-line basis apportions the original cost on the basis of equal annual amounts over the estimated life of the property, whereas the sinking-fund basis charges an equal annual amount which with compound interest at a certain stipulated rate will equal the original cost of the property at its retirement.

Under the reserve method the annual charge is usually determined by the straight-line method. The straight-line method was

adopted by the Federal Power Commission in 1937 and later recommended by the National Association of Railroad and Utility Commissioners. Many states made it effective in 1938. According to a recent study by the Federal Power Commission more than 52 per cent of the utilities studied were using the straight-line basis compared with less than 15 per cent eight years earlier.

The ratio of "depreciation/operating revenue" must always be considered in light of the degree to which the company purchases power as compared with other companies that have their own power stations. When comparing two companies that have substantially the same gross revenue and that are otherwise similar, except that the one generates its own power whereas the other buys it, the first should have a substantially higher plant account and therefore more depreciation. The usual method of adjusting for this condition is to deduct from the gross revenues of the plant that buys its power an amount equal to the power bill. Since hydro-electric plants usually take a low depreciation rate owing to long life, the two factors of high investment to gross revenues and low depreciation to investment tend to offset each other so that the ratio of depreciation to gross revenue varies within narrow limits. While in the ratio "maintenance and depreciation/operating revenue" high annual maintenance will tend to reduce annual depreciation, maintenance and depreciation are functionally related to property and not to gross revenues. A better picture is obtained by relating (a) maintenance and depreciation to plant and (b) depreciation reserve to plant.

Although the annual maintenance charge of Turbine Electric Light Company represented approximately the same percentage of operating revenue each year, the annual percentage of operating revenue charged as depreciation increased, with the result that total maintenance and depreciation increased from 6.2 per cent to 10.5 per cent of operating revenue. The increased depreciation charge was a reflection of the adoption by the company of a modified sinking fund plan that was based on an assumed over-all forty-year life with compound interest on the depreciation reserve at 3 per cent. The annual depreciation charge represented approximately the same percentage of gross utility plant this year and last year which, however, was much higher than the previous year. On the other hand, the depreciation reserve declined in relation to the gross plant. This decrease was due, however, to the additional investment of \$11,489,631 in utility plant this year and last year.

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------------|------------------|------------------|-------------------|
| Maintenance/Operating Revenue..... | 5.2% | 4.5% | 4.8% |
| Depreciation/Operating Revenue..... | 5.3% | 3.4% | 1.4% |
| Total/Operating Revenue..... | 10.5% | 7.9% | 6.2% |
| Depreciation/Gross Plant..... | 1.7% | 1.3% | 0.5% |
| Depreciation Reserve/Gross Plant.... | 21.9% | 24.3% | 26.4% |

Industrial. Under the rules of the Securities and Exchange Commission, a statement of depreciation policy must be included in reports filed by industrial companies with the Commission. Straddlerocke Products Corporation reported that depreciation was computed by the straight-line method at specific annual rates that were based upon estimated average useful life of the particular class of assets, with higher allowances on leasehold improvements and on property not in active use in the business. Property retired was written off or written down to salvage values, as the case might be, by charges to depreciation reserves to the extent of depreciation already provided. Provision for depreciation was not made, however, on fully depreciated property still in use in the business and carried on the books at nominal amounts. The company charged depreciation of \$14,944,273 this year, compared with \$12,960,570 last year and \$10,636,401 the previous year. Although the annual depreciation charge represented substantially the same percentage of net sales as that of its competitor, it did represent a larger percentage of gross plant. On the other hand, its competitor had depreciated a larger percentage of gross plant.

STRADDLEROCKE PRODUCTS CORPORATION

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------------|------------------|------------------|-------------------|
| Depreciation/Net Sales..... | 1.7% | 1.3% | 1.2% |
| Depreciation/Gross Plant..... | 6.3% | 6.0% | 5.6% |
| Depreciation Reserve/Gross Plant.... | 37.9% | 38.0% | 39.0% |

COMPETITOR COMPANY

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------------|------------------|------------------|-------------------|
| Depreciation/Net Sales..... | 1.5% | 1.3% | 1.2% |
| Depreciation/Gross Plant..... | 5.3% | 4.8% | 4.7% |
| Depreciation Reserve/Gross Plant.... | 44.8% | 44.5% | 45.1% |

Some companies follow the policy of depreciating fixed assets at rates in excess of those allowed for federal income tax purposes and, therefore, charge more for depreciation on the books than is allowed for income tax computations. Although the tax law allows corporations to set aside a depreciation reserve from untaxed earnings, Treasury regulations surround the practice with certain limitations which have the effect mainly of prohibiting unduly large

tax-free charges. As a result, the amount shown for depreciation on corporate income tax forms is not always identical with that reported to stockholders.

Depreciation accounting is primarily a method of allocating a cost; nevertheless, it is the basis of providing (in part at least) for a replacement. When a company invests its capital in a fixed asset, the funds with which to replace the asset must come from the earnings of the asset, or else when the asset is retired the company will not have a capital asset with which to continue in business. Changing replacement costs of plant and equipment presents a problem to business management. During the depressed conditions of the 1930's depreciation charges were applied to high-cost property built in the 1920's but possible of duplication in the 1930's at much lower costs. On the other hand, if charges against income for wear and exhaustion of the asset are made on the basis of original cost, and replacement costs rise in the meantime, as they did subsequently, the resultant reserve will be inadequate to cover the cost of replacement when the original asset becomes worn out or outmoded. To the extent that the reserve from earnings for this replacement is less than the cost of the replacement, capital is depleted.

An increase in replacement costs over original costs of plant and equipment creates two problems: (a) accounting problems in the preparation of financial statements to reflect this advance and (b) the providing of actual funds to finance such replacements as they become necessary. During a period of increased replacement costs, depreciation based on original cost tends to under-provide for replacement and to over-state current earnings. Although the need for conserving a portion of earnings during a period of high earnings to meet higher replacement costs is granted, the methods employed to accomplish this purpose have not been uniform. Some companies made special charges against operating earnings to provide for accelerated depreciation or for high-cost replacement of fixed assets and thus reduced the reported net earnings correspondingly. In a recent year Du Pont & Company charged current earnings with \$20,900,000 as provision for excessive construction costs. The Securities and Exchange Commission, however, adopted the position of the American Institute of Accountants' Committee on Accounting Procedure which disapproved "immediate write-downs of plant cost by charges against current income in amounts believed

to represent excessive or abnormal costs occasioned by current price levels." Accordingly, the Commission required Du Pont to file an amendment to its annual report to the Commission in which the provision for excessive construction costs were deducted after, rather than before, stating net income for the year. The report to the stockholders reported net income for the year of \$120,009,760, but the amended report to the Commission showed net income for the year of \$140,909,760. Other companies treated these charges not as deductions from, but as appropriations of, net income. Swift & Co., in a recent year, appropriated an initial \$12,000,000 to a reserve for high cost additions to fixed assets which it increased by a subsequent additional appropriation of \$10,000,000. Still other companies created or added to contingency reserves for this purpose. Liggett & Myers Tobacco Company established a reserve of \$2,000,000, called "Appropriation for Excessive Costs of Fixed Assets," by an appropriation from surplus.

At the same time, the insufficiency of ordinary depreciation provisions to meet current replacement costs plus the amounts needed for expansion to meet increasing demand made it necessary for some companies to seek substantial funds above those available from operations. Gulf Oil Corporation, for example, borrowed \$100,000,000 by the sale of a twenty-five-year note issue and raised \$113,117,000 by the sale of capital stock to finance plant replacement and expansion.

Maintenance and depreciation. Though maintenance and depreciation charges in general are important to the investor, their importance in specific instances varies according to the nature of the business and the financial structure of the company. Those charges are much more important in companies like railroads and public utilities, whose fixed assets constitute a very large percentage of the total assets, than in those industrial companies where fixed assets are a very small percentage. They are of greater significance also in companies whose capital structure includes a large funded debt than in those whose capital structure consists largely of stock. In the former case, the large fixed charges narrow the margin of earnings available for the stockholders and, therefore, any decrease in earnings resulting from an increase in maintenance or depreciation, or both, would result in an important percentage decrease in net income. For example, assume an increase of \$5,000,000 in maintenance and depreciation charges for both Company A, which

has funded debt, and Company B, which has no funded debt. As a result of the increase in charges and consequent decline in earnings, the net income of Company A is decreased 22.8 per cent whereas that of Company B is decreased only 11.9 per cent.

| | COMPANY A | | COMPANY B | |
|--------------------------------------|-----------------|-----------------|-----------------|-----------------|
| | <i>Before</i> | <i>After</i> | <i>Before</i> | <i>After</i> |
| Available for Fixed Charges. | \$42,000 | \$37,000 | \$42,000 | \$37,000 |
| Fixed Charges. | 20,000 | 20,000 | | |
| Net income. | <u>\$22,000</u> | <u>\$17,000</u> | <u>\$42,000</u> | <u>\$37,000</u> |

Summary.

NORRESTER & WEST RAILWAY

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Maintenance: W & S | | | |
| Main./Operating revenues | 14.2% | 13.1% | 13.2% |
| Main./Freight ton-miles (mills) | 1.51 | 1.22 | 1.06 |
| Main./Miles of road | \$7,622 | \$8,671 | \$8,232 |
| Main./Miles of track. | \$3,956 | \$4,532 | \$4,275 |
| Main./Equated track-miles. | \$5,292 | \$5,984 | \$5,658 |
| Main./Revenue train-miles | \$1.83 | \$1.64 | \$1.47 |
| Maintenance: Equipment | | | |
| Main./Operating revenues | 15.5% | 14.8% | 13.9% |
| Total Maintenance: W & S + Equip. | | | |
| Main./Operating revenues | 29.7% | 27.9% | 27.1% |
| Depreciation: Equipment | | | |
| Deprec./Operating revenues. | 5.5% | 3.9% | 3.9% |
| Deprec./Gross plant | 3.7% | 3.4% | 3.5% |
| Total Maintenance & Depreciation: | | | |
| M. & D./Operating Revenues | 36.5% | 32.9% | 32.2% |

TURABINE ELECTRIC LIGHT COMPANY

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|------------------------------------|------------------|------------------|-------------------|
| Maintenance: | | | |
| Main./Operating revenue. | 5.2% | 4.5% | 4.8% |
| Depreciation: | | | |
| Deprec./Operating revenue. | 5.3% | 3.4% | 1.4% |
| Deprec./Gross plant. | 1.7% | 1.3% | 0.5% |
| Deprec. Res./Gross plant. | 21.9% | 24.3% | 26.4% |
| Total Maintenance & Depreciation: | | | |
| M. & D./Operating revenue. | 10.5% | 7.9% | 6.2% |

STRADDLEROCKE PRODUCTS CORPORATION

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------------|------------------|------------------|-------------------|
| Maintenance: | | | |
| Main./Net sales. | 2.3% | 2.0% | 2.1% |
| Depreciation: | | | |
| Deprec./Net sales. | 1.7% | 1.3% | 1.2% |
| Deprec./Gross plant. | 6.3% | 6.0% | 5.6% |
| Deprec. Res./Gross plant. | 37.9% | 38.0% | 39.0% |
| Total Maintenance & Depreciation: | | | |
| M. & D./Net sales. | 4.0% | 3.3% | 3.3% |

Review Questions

1. Define maintenance.
2. Name the classification of maintenance charges by a railroad.
3. Indicate the relation between depreciation and maintenance of a railroad.
4. Name the factors influencing the maintenance policy of a railroad.
5. Indicate the significance of railroad maintenance to the investor.
6. Discuss the inadequacy of a dollar basis as a measurement of maintenance of railroad way and structures.
7. Indicate the factors influencing variations in the amounts spent for maintenance of railroad way and structures.
8. Name and explain the bases of measuring adequacy of maintenance of railroad way and structures.
9. Explain the meaning and significance of railroad maintenance of way and structures per equated track-mile.
10. Name and explain the bases of measuring adequacy of maintenance of railroad equipment.
11. Explain the significance of the percentage of unserviceable equipment of a railroad.
12. Discuss the significance of "Total railroad maintenance/operating revenues."
13. Explain the measurement of adequacy of maintenance in a public utility and in an industrial company.
14. Define depreciation.
15. Name the assets subject to depreciation.
16. In what way is the cost of an asset a prepayment?
17. Discuss the relation of maintenance to depreciation.
18. Name and explain the factors in the determination of the annual depreciation charge.
19. Distinguish between a unit rate and a composite rate of depreciation.
20. Explain the relation between actual and theoretical depreciation.
21. Discuss the problem in the analysis of depreciation.
22. Discuss the relation of the depreciation charge to the balance sheet and to the income statement from the investment viewpoint.
23. Explain the bases upon which the adequacy of depreciation may be measured.
24. Explain the measurement of adequacy of depreciation in a railroad.
25. Distinguish between the reserve and the retirement methods of providing for depreciation in utility companies.
26. Indicate the factors in the measurement of adequacy of depreciation in a public utility company.
27. Indicate the factors in the measurement of adequacy of depreciation in an industrial company.
28. Account for the variation in importance of maintenance and depreciation in different companies.

Assignment

- (a) Determine the annual depreciation charge (straight-line method) on a fixed asset with an original cost of \$55,000, an estimated service life of fifteen years, and a residual value of \$10,000.
- (b) Indicate the effect upon the following items of an additional charge to depreciation of \$23,000:

| | |
|------------------------------------|------------------|
| Fixed Assets | \$140,000 |
| Reserve for Depreciation | 32,000 |
| Net Fixed Assets | <u>\$108,000</u> |
| Operating Profit | \$ 83,000 |

- (c) Determine the amount of depreciation reserve and the net depreciated value at the end of the fifteenth year of an asset with an original cost of \$650,000, an estimated service life of twenty years, and a residual value of \$150,000.
- (d) A railroad reported the following income statement items: (000)

| | <i>This Year</i> | <i>Last Year</i> |
|--------------------------------------|------------------|------------------|
| Way and Structures: | | |
| Road property—depreciation | \$ 6,467 | \$ 6,324 |
| Retirements—road | 890 | 914 |
| Maintenance | 71,576 | 60,252 |
| Equipment: | | |
| Equipment—depreciation | 12,776 | 13,635 |
| Maintenance. | 79,338 | 71,154 |

Calculate the amount which would be reported for "Maintenance" of way and structures and of equipment, respectively, as railroad operating expenses in the income statement for each year.

- (e) The annual report of an industrial company for the fiscal year just ended shows a charge against income for the year of \$4,000 for depreciation of a fixed asset purchased five years ago for \$125,000 and a depreciation reserve for the asset of \$20,000. The asset has an estimated service life of twenty years, and has an estimated residual value of \$10,000. Assuming a straight-line basis of charging annual depreciation, comment on the adequacy of the annual depreciation charge and calculate the correct current net book value of the asset.
- (f) An industrial company purchased at a cost of \$265,000 a fixed asset with an estimated service life of fifteen years and residual value of \$40,000. At the end of the twelfth year the annual report shows a depreciation charge against income of \$18,000 and a depreciation reserve for the asset of \$216,000. Assuming the straight-line basis of charging annual depreciation, comment on the adequacy of the annual depreciation charge, the significance of the current depreciation reserve, and the effect upon stated earnings.

CHAPTER NINETEEN

FIXED CAPITAL

Introduction. The very nature of railroad and public utility operation requires a substantial investment in fixed assets. Although the following comment, appearing in an annual report of Southern California Edison Company, was made with reference to a public utility, it is applicable to a railroad:

Unlike a store or the average factory, an electric utility does not have a stock of merchandise on its shelves. It does not have an inventory at all in the usual sense. The comparable commodity of an electric utility is the kilowatt-hour, or unit of energy. It is produced and processed and delivered all at the same moment. It requires, therefore, not an investment in inventory, or factory or sales personnel in great numbers, but an enormously large investment in generating plant (our factory) and in transmission and distribution plant (our delivery service). Accordingly, plant, in contrast to inventories and cash, is a much more important asset of the electric utility than of most other industries. It must be sufficient to meet instantaneous demands for service and instantaneous delivery (all by mechanical processes), and this can be made available only by a large fixed investment in plant.

The investment needed in fixed assets in the industrial field, however, differs from one industry to another. The consolidated balance sheet of United States Steel Corporation and its subsidiaries shows approximately 50 per cent of the total assets in the form of fixed assets, in contrast to Montgomery Ward & Company, which has about 13 per cent. The importance of the fixed assets in an individual company is measured by the ratio "Fixed assets/total assets." The Norrester & West Railway had an investment in transportation property of \$659,965,391, which represented 82.7 per cent of the total assets of \$797,279,944. The utility plant of Turbine Electric Light Company was valued at \$52,263,840, or 77.0 per cent of total assets of \$67,928,828. On the other hand, the net investment of Straddlerocke Products Corporation in property, plant, and equipment was stated at \$146,131,782 or 45.1 per cent of total assets of \$323,603,347. This ratio in all cases is

designed to show what part of the total assets employed in the business is represented by operating property.

Inasmuch as an increase in this ratio may signify either favorable or unfavorable growth of the company, analysis must be made of the changes that have taken place in the fixed assets or operating property.

Railroad. The investment in transportation property of the Norrestern & West Railway was reported as:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------|----------------------|----------------------|----------------------|
| Road and Equipment: | | | |
| Road..... | \$541,492,519 | \$524,565,420 | \$488,527,295 |
| Equipment..... | 401,087,021 | 384,212,743 | 343,536,791 |
| General Expenditures..... | 23,518,161 | 23,568,857 | 23,624,856 |
| Improvements—Leased Property.. | 1,377,865 | 965,769 | 930,228 |
| Total..... | <u>\$967,475,566</u> | <u>\$933,312,789</u> | <u>\$856,619,170</u> |

The changes in these accounts revealed that the company had increased the investment in road, equipment, and improvements on leased property, and had spent approximately the same amount annually for general expenditures.

The nature and extent of the changes in these accounts is determined, however, by further analysis of the "Road" account and the "Equipment" account for the purpose of measuring the extent to which the company has increased its investment in property and at the same time the extent to which it has retired property. The "Road" account, which includes the investment in road, general expenditures made upon the road, and improvements on leased railway property, revealed the following changes:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|----------------------|----------------------|----------------------|
| Cost of road, beginning | \$548,134,276 | \$512,152,150 | \$409,589,950 |
| Improvements—Leased Property.... | 965,769 | 930,228 | 228,061 |
| | <u>\$549,100,045</u> | <u>\$513,082,378</u> | <u>\$409,818,011</u> |
| Expenditures during year | 17,825,663 | 37,607,894 | 103,783,466 |
| | <u>\$566,925,708</u> | <u>\$550,690,272</u> | <u>\$513,601,477</u> |
| Less: | | | |
| Property retired..... | 537,163 | 410,318 | 315,980 |
| Property transferred to Miscellaneous Physical Property..... | nil | 1,179,909 | 203,119 |
| Cost, end of year..... | <u>\$566,388,545</u> | <u>\$549,100,045</u> | <u>\$513,082,378</u> |

Analysis of "Road" account indicated that the company substantially reduced the expenditures during this year and last year and at the same time increased the retirements.

The "Equipment" account revealed the following changes:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------------|----------------------|----------------------|----------------------|
| Cost, beginning. | \$384,212,743 | \$343,536,791 | \$263,177,121 |
| Expenditures during year. | 37,100,657 | 48,427,804 | 82,597,364 |
| | <u>\$421,313,400</u> | <u>\$391,964,595</u> | <u>\$345,774,485</u> |
| Less: retirements. | 20,226,379 | 7,751,852 | 2,237,694 |
| Cost, end of year | <u>\$401,087,021</u> | <u>\$384,212,743</u> | <u>\$343,536,791</u> |

Analysis of the "Equipment" account indicated that the company made substantial additions to equipment although the amount decreased each year. At the same time it greatly increased the retirements this year.

During a recent year the investment in transportation property of Southern Pacific Transportation System increased \$16,712,250 as follows:

| | | |
|---|--------------|---------------------|
| Additions and betterments: | | |
| Road property. | \$ 6,089,534 | |
| Rolling stock. | 20,383,018 | |
| Floating equipment. | 174 | |
| Miscellaneous equipment. | 88,109 | |
| Total expenditures. | | \$26,560,835 |
| Less: | | |
| Road property retired. | \$ 4,285,762 | |
| Rolling stock retired. | 4,998,037 | |
| Miscellaneous equipment retired | 48,792 | |
| Miscellaneous adjustments. | 515,994 | 9,848,585 |
| Net increase. | | <u>\$16,712,250</u> |

The company spent \$26,560,835 for additions and betterments, most of which (\$20,383,018) represented new rolling stock. At the same time the company retired operating property carried at \$9,848,585.

Public utility. Since a public utility company must serve the public twenty-four hours a day, it must have facilities to supply the service whenever demanded. Sometime during a day, season, or year, the demand made on a utility's facilities will be at its highest point, which is known as the "peak load." Since in the instance of an electric power company, electrical energy cannot be stored but must be produced as it is used, the yearly peak load determines the minimum amount of generating capacity that the company must have. In a recent year the Consolidated Edison Company of New York had a one-hour maximum load of 2,500,000 kilowatts which occurred on December 18 from 5:00 to 6:00 P.M. At the time of this maximum demand, the system had a plant capacity of 2,838,000 kilowatts or a reserve of 11.9 per cent. Similarly, Boston Edison Company reported a peak load of 570,810 kilowatts on

December 21 at 4:45 P.M. in a recent year. In view of the fact that the company had a total available capacity of 632,910 kilowatts, it had a reserve of 9.8 per cent.

A system should not have less generating capacity than is required to take care of the peak requirements, unless it is tied in or interconnected with another system, in which case it is possible to interchange electrical energy. Florida Power Corporation, for example, reported one year that the daily peak demand was above the company's ability to serve from its own generating stations. The excess demand, however, was met with the aid of power purchased from other companies, chiefly Alabama Power Company and Georgia Power Company. Public Service Company of New Hampshire in one year experienced a power shortage in the northern part of its territory due to the lack of rainfall. The company was able, however, to purchase sufficient additional electric power from other utility systems to meet all demands made upon it.

Generally speaking, the number of kilowatt-hours sold in a year represents about 85 per cent of the total kilowatt-hours produced in utility plants. Of the remaining 15 per cent, more than 10 per cent is unavoidably lost or unaccounted for in transmission and transformation between power stations and consumers and less than 5 per cent is consumed at generating stations and in power company operations.

An important factor in the consideration of the generating capacity of an operating company is the load factor. Inasmuch as the peak load prevails only for a limited period, part of the plant facilities is idle during intervals between peaks. The load factor represents the relationship between the average demand or load on the production plant and the peak demand or load (average load/system peak) and is expressed as the percentage of the average load to the peak load. In a recent year Hartford Electric Light Company reported a load factor of 55.8 per cent compared with 56.0 per cent and 66.0 per cent, respectively, in prior years. The lower this ratio the less favorable the situation since the facilities of the utility are in use a relatively short period of time and therefore are less profitably used. The Florida Power Corporation, on the other hand, reported an increase in the load factor during a recent period from 54.9 per cent to 60.5 per cent which reflected substantially increased sales to industrial customers and a rapidly growing air-conditioning load. The load factor is sometimes improved by offering special rates for off-peak service, in an attempt to spread out

or level off the peak demand. Special rates are offered to customers to encourage them to diversify their demand, which raises off-peak demand and gives a better average use. This, in turn, increases the load factor. A utility company is able to operate on the most profitable basis when it has a high load factor. When a utility has a low load factor, a relatively large portion of the plant investment is non-productive.

Utilities commonly have a reserve capacity, that is, capacity which is not needed to serve the highest peak of demand. This reserve capacity is represented by "stand-by" plants which, while usually the most inefficient or high-cost plants in the system, can be placed in service quickly in order to carry unusual loads. The purpose of this reserve capacity is to guard against a breakdown of one of the active units or a sudden demand in excess of the anticipated peak. A desirable margin of reserve capacity is 15 per cent. In a recent year Boston Edison Company not only met its electric power demand from its own system but through interconnection with other systems was able to use its reserve capacity to aid companies suffering from a shortage of water at hydroelectric plants.

Turbine Electric Light Company reported as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------|------------------|------------------|-------------------|
| Generating Capacity KW... | 216,500 | 201,500 | 201,500 |
| KWH (000): | | | |
| Generated..... | 1,120,400 | 1,055,900 | 1,011,259 |
| Purchased..... | 3,323 | 8,745 | 6,843 |
| Total. | <u>1,123,723</u> | <u>1,064,645</u> | <u>1,018,102</u> |
| Sales KWH (000)..... | 1,076,958 | 1,022,107 | 977,162 |
| Peak Load KW. | 204,100 | 199,800 | 188,100 |
| Average Load KW..... | 128,316 | 121,478 | 162,458 |

The company increased its generating capacity this year by 15,000 KW or 7.4 per cent over the last two years. At the same time the company experienced a 5.5 per cent increase in power produced this year compared with 4.6 per cent last year. This represented an increase primarily in the power generated and was accompanied by a decrease in the power purchased. The company also had an increase in sales of 5.3 per cent this year compared to 4.6 per cent last year. As a result of the increase in the peak load and in the average load, the load factor this year was 62.9 per cent compared to 60.8 per cent last year and 61.8 per cent the previous year. With a generating capacity of 216,500 KW and a peak load of 204,100 KW, the company had a reserve capacity of 5.8 per cent compared to 0.9 per cent last year and 6.7 per cent the previous year.

The "Utility plant" account showed the following changes:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------|------------------|------------------|-------------------|
| Utility Plant, beginning..... | \$45,617,870 | \$40,774,209 | \$39,421,732 |
| Net Additions during year..... | 6,645,970 | 4,843,661 | 1,352,477 |
| Utility Plant, end..... | \$52,263,840 | \$45,617,870 | \$40,774,209 |

Analysis of the account reveals that the company has made substantial net additions to utility plant investment especially during the last two years.

Industrial. An expanding industrial company also must increase its investment in productive facilities. The Standard Oil Company of New Jersey, for example, has always been under the necessity of spending large sums to provide adequate supplies of oil products in order to maintain its competitive position in expanding world markets. During a recent ten-year period the company made expenditures for properties and equipment of nearly \$2,000,000,000.

The fixed asset account of Straddlerocke Products Corporation consisted of:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|------------------------------------|------------------|------------------|-------------------|
| Land..... | \$ 13,107,501 | \$ 13,216,605 | \$ 12,846,359 |
| Buildings, Machinery and Equipment | 222,387,706 | 203,351,382 | 176,203,946 |
| Total..... | \$235,495,207 | \$216,567,987 | \$189,050,305 |

The total investment in land, buildings, machinery, and equipment increased from \$189,050,305 to \$235,495,207. Changes in the "Land" account were as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------------|------------------|------------------|-------------------|
| Cost, beginning of year..... | \$13,216,605 | \$12,846,359 | \$12,518,133 |
| Net increase during year..... | (109,104) | 370,246 | 328,226 |
| Cost, end of year..... | \$13,107,501 | \$13,216,605 | \$12,846,359 |

While the investment in land increased in each of the last two years, it decreased by \$109,104 this year. Changes in the "Buildings, Machinery and Equipment" account were as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------------|------------------|------------------|-------------------|
| Cost, beginning of year..... | \$203,351,382 | \$176,203,946 | \$148,495,888 |
| Net increase during year..... | 19,036,324 | 27,147,436 | 27,708,058 |
| Cost, end of year..... | \$222,387,706 | \$203,351,382 | \$176,203,946 |

The company increased its investment in buildings, machinery and equipment by substantial net additions, especially last year and the previous year. The actual capital expenditures reported by the company were \$32,000,000, \$33,618,000, and \$32,000,000, respec-

tively, which means that the additions and retirements were as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------|---------------------|---------------------|---------------------|
| Additions..... | \$32,000,000 | \$33,618,000 | \$32,000,000 |
| Retirements..... | 12,963,676 | 6,470,564 | 4,291,942 |
| Net Additions..... | <u>\$19,036,324</u> | <u>\$27,147,436</u> | <u>\$27,708,058</u> |

While the company made substantially the same capital additions each year, it greatly increased the retirements this year.

Some companies report the specific amounts of additions to and charges against the fixed asset account. International Harvester Company, for example, reported the following changes in "Land, Buildings, Machinery, and Equipment" in a recent year:

| | |
|--|----------------------|
| Balance, beginning of year. | \$330,231,458 |
| Capital additions during year | 54,820,665 |
| | <u>\$385,052,123</u> |
| Sold, scrapped, etc. during year | 2,140,153 |
| Balance, end of year. | <u>\$382,911,970</u> |

The account increased \$52,680,512 during the year reflecting additions of \$54,820,665 and retirements of \$2,140,153.

Fixed assets. Current assets available for the payment of the current liabilities reflect the immediate solvency of the company by revealing the company's ability to pay current debts as they mature. The stability or solidity of the company, on the other hand, is reflected in the relation of the fixed assets to the long-term liabilities. The fixed assets, representing properties to be held permanently for operating purposes, offer a basis for the security of long-term debt. The long-term liabilities look to the fixed assets as tangible protection for the debt. The fixed liabilities represent a definite amount of principal which must be repaid. Assets, on the other hand, always present a problem of valuation. The valuation of fixed assets, however, is more complex than the valuation of current assets. Fixed assets are less liquid than current assets and they are turned over only after long intervals or not at all. Two important problems arise, therefore, with respect to fixed assets: (a) What is the proper value of the fixed assets, and (b) what relation do the fixed assets bear to the long-term liabilities?

Valuation of fixed assets. Basically, fixed capital assets should be valued at original cost less depreciation. The net valuation of the fixed assets on the books of the company reflect the cost of the plant and equipment, and subsequent additions on the one hand and the depreciation reserve which has been built up and the retire-

ments of the items making up the fixed assets account on the other hand. The depreciated book value of the fixed assets, therefore, is affected by the price level at the time of acquisition of the assets, the length of time which has elapsed since acquisition, and the policies followed with respect to maintenance, depreciation, betterments, and replacements.

The value of a mining property is usually set up on the basis of the estimated ore content to be extracted from the mine over a number of years. The Securities and Exchange Commission has ruled that in such cases the value established should be based on the present value of the estimated output.

Inasmuch as original cost and depreciation as reported provide ample room for flexibility, several considerations arise: (a) Was the original cost price inflated or more than the market value at the time of purchase? (b) Have repairs and ordinary maintenance been charged as operating expenses, or have they been added to the capital investment in the same manner as additions and betterments? (c) Have betterments or improvements been made without any corresponding increase in the book value of the property? (d) Have allowances or reserves for depreciation been adequate? The investor, however, is not in a position to form a comprehensive judgment on those considerations except as to the apparent adequacy or inadequacy of the depreciation policy.

Basically, the depreciated cost of fixed assets is more an historical record than a measure of current value of the assets. The value of the fixed assets to a business and therefore to the stockholders is measured solely by their value in use. For this reason the current value of the fixed assets should be measured in terms of the productivity of the assets as reflected in the operating revenue or net sales. While it is true that the fixed assets alone do not produce the revenue or sales, it is true nevertheless that without them the company would be unable to operate.

Plant/operating revenue. The generally employed test of the value of the fixed assets is the relationship between the plant valuation and the operating revenue or net sales. The relationship is expressed as "Plant/operating revenue or net sales." The ratio is an approximation of the reasonableness of the book value of the fixed assets and a test for major overstatement. It seeks to determine whether (a) the plant is overvalued in terms of income and (b) the plant is maintaining its rate of productivity.

Railroad. The generally accepted test of the reasonableness of investment in fixed operating assets of a railroad is that the investment in transportation property should not exceed three times the operating revenue. In the instance of the Norrestern & West Railway, the investment in transportation property of \$950,169,352 was 3.4 times the operating revenues of \$273,958,827, compared to 2.7 times and 2.6 times, respectively. The rise in the ratio was a reflection of the increase in the investment in transportation property and the decline in operating revenues.

Public utility. The ratio when applied to public utility companies should vary according to the type of service provided and the facilities necessary to produce the service. Generally speaking, the plant valuation of an electric light and power company should not exceed 4.0 times the operating revenue of steam plants and 6.0 times that of hydro plants. In other divisions of the public utility field, the following maximum standards prevail; manufactured gas, 3.5 times; telephone and telegraph, 3.5 times; water supply, 9.0 times; transit, 2.0 times. The Turabine Electric Light Company, a steam company, reported utility plant of \$52,263,840 or 3.2 times operating revenue, compared to 2.8 times and 2.8 times, respectively.

Industrial. In industrial companies mathematical convenience generally necessitates the statement of the ratio as "Net sales/plant." This ratio expresses the number of dollars of net sales per dollar of investment in plant and is usually referred to as the "plant turnover." Straddlerocke Products Corporation reported net sales of \$897,675,545 and plant of \$235,495,207, or \$3.81 of net sales per dollar of investment in plant, compared with \$4.55 and \$4.75 respectively. Because of wide variation in the character of industrial operations, no single standard can be established. The value of the ratio lies in the comparison over a period of years to determine whether the company is progressing by obtaining more dollars of sales per dollar of plant investment. A downward trend in the face of a constant plant investment, on the other hand, raises the suspicion that the plant is overvalued. In this event it is necessary to review the maintenance and depreciation policy of the company.

Straddlerocke Products Corporation has received a decreasing number of dollars of net sales per dollar of investment in plant. Although it has earned more than its competitor in each year, it nevertheless has experienced a greater decrease, declining from

\$4.75 to \$3.81, whereas its competitor has shown greater stability with a decline from \$3.77 to \$3.37.

| | <i>Straddlerocke</i> | <i>Competitor</i> |
|-------------------------|----------------------|-------------------|
| Previous Year | \$4.75 | \$3.77 |
| Last Year | 4.55 | 3.73 |
| This Year | 3.81 | 3.37 |

Capital structure. The capital structure of a company refers to the aggregate of the bonds and stocks outstanding. It sets forth the extent of the long-term fixed-charge claims of the bondholders and of the interest of the stockholders. Analysis of the capital structure is made to determine the proportion of the capital represented by each class of security. It is important to the bondholders and to the stockholders. The larger the proportion in bonds, the weaker is the position of both the bondholders and the stockholders. The position of the bondholders is weakened by the small cushion provided by the stockholders and, at the same time, the large proportion of bond claims ahead of the stockholders reduces the strength of the latter. On the other hand, the smaller the proportion in bonds, the stronger is the position of both the bondholders and the stockholders. The large cushion provided by the stockholders strengthens the position of the bonds and, by the same token, the position of the stockholders is enhanced by the small prior claim of the bondholders.

Railroad. The capital structure of a railroad company consists of bonds, capitalized lease rentals, and capital stock. Lease rentals are usually capitalized at 5 per cent on the assumption that the property controlled by the lease could have been purchased or equivalent property constructed by the lessee railroad with the proceeds of a 5 per cent bond issue. The lessee railroad preferred, however, to lease the property of the lessor railroad and to guarantee the already outstanding securities of the lessor railroad. The rent paid in the form of guaranteed interest and dividends on the securities of the lessor railroad constitute the interest which the lessee railroad would have had to pay on its own bonds. The capitalized lease rentals must be included in the capital structure in order to determine the proportion of fixed-charge obligations to capital stock. The Norrestern & West Railway, for example, reported rent for leased lines of \$170,569 which, when capitalized at 5 per cent, represented a funded debt of \$3,411,380. The total capital structure of the company, therefore, was \$553,695,008, consisting of:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------------|------------------|------------------|-------------------|
| Bonds | \$335,193,225 | \$329,784,000 | \$267,453,400 |
| Capitalized rentals | 3,411,380 | 3,516,160 | 3,520,340 |
| Preferred stock | 19,662,940 | 19,770,440 | 19,776,940 |
| Common stock | 195,427,463 | 195,427,463 | 195,177,463 |
| Total | \$553,695,008 | \$548,498,063 | \$485,928,143 |

The capital structures of American railroads have had two characteristics: (a) a large proportion in the form of funded debt and (b) the failure in many bond issues to provide for a sinking fund. The large proportion in funded debt was justified on the grounds originally that tremendous amounts of capital were required in the construction of railroads and later by the alleged basic character of the service provided by the industry and the stability of revenues. This debt, however, proved a serious burden. The omission of a sinking fund provision in most of the earlier bonds was on the assumption that at maturity they could be refunded into a new issue on favorable terms. In recent years, however, the general situation with respect to the size of the debt and sinking fund provisions has changed. Class I railroads reduced their unmatured funded debt (exclusive of equipment obligations) from \$10,091,000,000 in 1932, when it was the highest on record, to \$6,662,000,000 in 1950, or a reduction of 34 per cent. In some railroads the debt reduction resulted from reorganization whereas others followed the policy of using wartime earnings to reduce their funded debt.

The Interstate Commerce Commission also has insisted upon the inclusion of sinking fund provisions in new railroad bonds. One of the significant features of the reorganization plans for bankrupt roads formulated by the Interstate Commerce Commission in recent years was the inclusion of annual sinking fund provisions—contingent on earnings—for the new debt of the companies.

Analysis of the capital structure of the Norrester & West Railway revealed the following percentage distribution:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Bonds and Capitalized Rentals | 61.1% | 60.7% | 55.7% |
| Stock | 38.9 | 39.3 | 44.3 |
| | 100.0% | 100.0% | 100.0% |

Although the percentage of total capital structure in fixed charge obligations, as represented by bonds and capitalized rentals, has increased during the past two years, the increase has been largely in the bond section. The increase in this section, in turn, is a reflection primarily of growth in equipment obligations outstanding as evidenced by the following statement of debt:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------------|----------------------|----------------------|----------------------|
| Bonds | \$240,052,000 | \$242,102,000 | \$207,165,000 |
| Equipment Obligations | 95,141,225 | 87,682,000 | 60,288,400 |
| Total | <u>\$335,193,225</u> | <u>\$329,784,000</u> | <u>\$267,453,400</u> |

Generally speaking, fixed obligations (bonds and capitalized rentals) ought not to exceed 50 per cent of the total capital structure.

Public utility. Public utility companies, like railroad companies, also have obtained a large proportion of their capital through borrowing and for the same general reasons; namely, the large amount of capital required and the alleged stability of earning power. The amount of funded debt varies from one company to another according to the size of the company, the geographical location, and the type of utility. In determining the capital structure of a public utility company it is usual to include surplus as part of the stockholders' interest. Turabine Electric Light Company, for example, had a total capital structure of \$53,325,064, consisting of \$18,020,000 in bonds, \$8,000,000 in preferred stock, and \$27,305,064 in common stock and surplus. The percentage distribution was as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|------------------------------------|------------------|------------------|-------------------|
| Bonds | 34% | 40% | 43% |
| Preferred Stock | 15 | nil | nil |
| Common Stock and Surplus | 51 | 60 | 57 |
| | <u>100%</u> | <u>100%</u> | <u>100%</u> |

The very moderate proportion of the capital structure in bonds compared favorably with the Securities and Exchange Commission's schedule for utility capital structures which consists of 50 per cent in debt, 25 per cent in preferred stock, and 25 per cent in common stock.

The reasonableness of the capital structure may be measured by comparing it to the tentative rate base. The capital structure consists of the aggregate funded debt, capital stock, and surplus. It represents the capital upon which the company is expected, by the security holders, to earn a satisfactory return. The rate base is the capital value upon which the utility is entitled to earn a satisfactory return under the fair rate and the rate schedule established by the regulatory commission. The rate base may be established tentatively for analytical purposes as the utility plant less the reserve for depreciation plus the gross working capital. In the instance of Turabine Electric Light Company it had a tentative rate base of \$53,941,271 upon which to earn a return to support a capital structure of \$53,325,064. If, on the other hand, the capital structure

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------|------------------|------------------|-------------------|
| Utility plant..... | \$52,263,840 | \$45,617,870 | \$40,774,209 |
| Depreciation reserve | 11,458,250 | 11,122,704 | 10,841,926 |
| Net plant | 40,805,590 | 34,495,166 | 29,932,283 |
| Current Assets..... | 13,135,680 | 11,130,935 | 13,439,325 |
| Total | \$53,941,270 | \$45,626,101 | \$43,371,608 |
| Capital Structure | \$53,325,064 | \$44,985,836 | \$42,669,178 |

exceeds the tentative rate base, a company will probably experience difficulty in earning a satisfactory return on the capital structure and in additional financing.

Industrial. In industrial companies, surplus is equally important with capital stock as a protection to the claim of the bondholders. It is frequently a very important part of the net worth, particularly in companies that give a very nominal stated value to no par value stock. In determining the amount of surplus, intangible assets, which are generally arbitrarily valued at best, must be eliminated by deducting their balance sheet valuation from the statement of surplus. Surplus shows the profits that are available for distribution as dividends (earned surplus), the profits that have been reserved for various corporate purposes (surplus reserves), and the capital surplus. In practice, however, it is difficult in many instances to determine from the title whether a reserve is truly a surplus reserve. For analytical purposes, net worth is calculated as the sum of the capital stock, earned surplus, and capital surplus. The error in such calculation is on the side of conservatism, since it tends to understate the net worth.

The total capital structure of Straddlerocke Products Corporation consisted of:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------------------|------------------|------------------|-------------------|
| Bonds.. . . . | 30% | 35% | 26% |
| Common Stock and Surplus..... | 70 | 65 | 74 |
| | 100% | 100% | 100% |

The 30.0 per cent in funded debt marked a decrease from 35.0 per cent last year. Because of wide fluctuations in earnings, industrial companies can ill afford to have a large percentage of the capitalization in the form of bonds. An acceptable maximum is 25 per cent. Many of the strongest companies do not have any funded debt at all.

Creditors v. stockholders. The analysis of the relative investment by creditors and by stockholders in an industrial company is measured by two ratios: "Net worth/total debt" and "Net worth/net fixed assets." These ratios reflect two different ways of meas-

uring the extent to which the company is financed by the stockholders and by the creditors.

Net worth/total debt. Total debt of a corporation represents the aggregate debt owed to creditors, both long-term and short-term. It consists of the funded debt and the current liabilities. For example, the total debt of Straddlerocke Products Corporation was \$122,977,249, consisting of \$80,500,000 of funded debt and \$42,477,249 of current liabilities. Net worth and total debt both represent the capital used in the business—net worth representing the investment of the stockholders and total debt that of the creditors. The ratio “Net worth/total debt” expresses the number of dollars of stockholders’ investment supporting one dollar of debt, and thus reflects the relation of the debt to the supporting equity of the owners that must be wiped out before the creditors suffer a loss. For example, Straddlerocke Products Corporation had \$189,608,481 of net worth supporting \$122,977,249 of total debt or \$1.54 of net worth for every dollar of total debt, compared to \$1.12 and \$1.25, respectively. The position of both the creditors and the owners is enhanced by an increase in the net worth per dollar of total debt.

A company may improve its current ratio through the conversion of part of the current liabilities into funded debt, yet the over-all effect upon the company’s financial position is still reflected in the ratio “net worth/total debt.” For example, Liggett & Myers Tobacco Company in a recent year increased its net working capital by \$77,265,337 and its current ratio from 3.8 to 8.0 largely by funding part of its unfunded debt. It issued \$75,000,000 of 2½ per cent debentures and used part of the proceeds to reduce bank loans from \$57,000,000 to \$18,000,000. As a result, current liabilities declined from \$75,390,004 to \$40,676,235. While the funding of the unfunded debt reduced the current liabilities, at the same time, however, it increased the funded debt from \$52,886,600 to \$127,886,600. The funding operation simply changed the character of the debt. The net effect of the operation was reflected in the ratio “net worth/total debt” which decreased from \$1.28 of net worth per dollar of total debt to \$0.99 per dollar of total debt.

Net worth/net fixed assets. The ratio “Net worth/net fixed assets,” on the other hand, relates the net worth to the investment in fixed assets and is based on the theory that the investment of the stockholders should be adequate to provide the fixed assets necessary to carry on the business and at least to contribute to

the current assets. Straddlerocke Products Corporation, with net worth of \$189,608,481 and net fixed assets of \$146,131,782, had \$1.29 of net worth for every dollar of net fixed assets, compared to \$1.15 and \$1.22, respectively. The greater the number of dollars of net worth per dollar of net fixed assets, the stronger is the position of the company. On the other hand a small number of dollars of net worth per dollar of net fixed assets points to a possible overexpansion in fixed assets.

Asset protection of debt. A comparison of the size of the long-term obligations and of the assets upon which they have a prior claim enables the bondholder to calculate the asset protection enjoyed by the bonds. Although the asset protection is subordinate to the earnings protection, it is nevertheless significant. The assets applicable to junior securities serve as a cushion against loss for the senior securities. The long-term liabilities look to the assets, both fixed and current, as protection for the debt.

Net fixed assets/funded debt. The extent to which the fixed assets protect the funded debt is expressed by the ratio "Net fixed assets/funded debt." The larger the plant investment supporting the funded debt, the stronger is the position of the bonds. The ratio is often referred to as a stability ratio. In view of the multiplicity and complexity of liens in the railroad field, however, the use of the relationship is restricted to the public utility and industrial fields. The Turabine Electric Light Company's net plant investment of \$40,805,590 was supporting \$18,020,000 of funded debt, or \$2.26 of net plant investment per dollar of funded debt. This compared with \$1.89 and \$1.62, respectively. Generally speaking, the net plant valuation should be at least $1\frac{1}{2}$ times the funded debt.

Straddlerocke Products Corporation had \$146,131,782 of net fixed assets and \$80,500,000 of funded debt, or \$1.82 of net fixed assets per dollar of funded debt, compared with \$1.65 and \$2.35, respectively. The net fixed assets should be at least twice the funded debt.

Net working capital/funded debt. The ratio "net working capital/funded debt" is a recognition of (a) the greater ease in valuing the current assets as compared with the fixed assets and (b) the distinct advantage of a strong working capital position in supporting interest charges during a period of poor earnings. A strong working capital position is most advantageous to the bondholder for two reasons: (a) it makes possible the continuance of interest payments and (b) it facilitates the retirement of the principal, either

by payment at maturity or by voluntary purchase of the bonds in the market. Straddlerocke Products Corporation, for example, had \$124,064,691 of net working capital and \$80,500,000 of funded debt, or \$1.54 of net working capital per dollar of funded debt, compared with \$1.42 and \$1.84, respectively. If bonds are to be accorded investment quality, the working capital should at least equal the funded debt.

Summary.

NORRESTERN & WEST RAILWAY

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Plant/Operating revenues (times) | 3.4 | 2.7 | 2.6 |
| Capital structure: | | | |
| Bonds and capitalized rentals | 61.1% | 60.7% | 55.7% |
| Stock | 38.9 | 39.3 | 44.3 |

TURABINE ELECTRIC LIGHT COMPANY

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Generating capacity: KW | 216,500 | 201,500 | 201,500 |
| KWH (000): | | | |
| Generated | 1,120,400 | 1,055,900 | 1,011,259 |
| Purchased | 3,323 | 8,745 | 6,843 |
| Total | 1,123,723 | 1,064,645 | 1,018,102 |
| Sales: KWH (000) | 1,076,958 | 1,022,107 | 977,162 |
| Peak load: KW | 204,100 | 199,800 | 188,100 |
| Average load: KW | 128,316 | 121,478 | 162,458 |
| Load factor | 62.9% | 60.8% | 61.8% |
| Plant/Operating revenue (times) | 3.2 | 2.8 | 2.8 |
| Capital structure: | | | |
| Bonds | 34% | 40% | 43% |
| Preferred stock | 15 | nil | nil |
| Common stock & surplus | 51 | 60 | 57 |
| Net fixed assets/Funded debt | \$2.26 | \$1.89 | \$1.62 |

STRADDLEROCKE PRODUCTS CORPORATION

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Net sales/Gross plant | \$3.81 | \$4.55 | \$4.75 |
| Capital structure: | | | |
| Bonds | 30% | 35% | 26% |
| Common stock & surplus | 70 | 65 | 74 |
| Net worth/Total debt | \$1.54 | \$1.12 | \$1.25 |
| Net worth/Net fixed assets | \$1.29 | \$1.15 | \$1.22 |
| Net fixed assets/Funded debt | \$1.82 | \$1.65 | \$2.35 |
| Net working capital/Funded debt | \$1.54 | \$1.42 | \$1.84 |

Review Questions

1. Indicate the relative importance of fixed assets to railroad, public utility, and industrial companies.
2. Discuss changes in the investment in operating property of a railroad, a public utility, and an industrial company.

3. Comment on the significance of the following report of peak load of an electric utility company: this year—138,600 kw; last year—114,000 kw; previous year—97,600 kw.

4. Comment on the following statement of property account before deduction of reserve for depreciation:

| | <i>This Year</i> | <i>Last Year</i> |
|--|----------------------|----------------------|
| Balance, beginning of year | \$216,360,776 | \$212,894,861 |
| Capital additions | 10,055,411 | 8,521,863 |
| | <u>\$226,416,187</u> | <u>\$221,416,724</u> |
| Sold, dismantled during year | 2,375,407 | 5,055,948 |
| Balance, end of year | <u>\$224,040,780</u> | <u>\$216,360,776</u> |

5. Comment on the following analysis of changes in plant and equipment accounts:

| | | |
|---------------------------------------|----------------------|----------------------|
| Plant and equipment: | | |
| Cost, beginning of year | | \$277,119,068 |
| Added during year | | <u>37,868,557</u> |
| | | <u>\$314,987,625</u> |
| Disposed of during year | | <u>11,415,958</u> |
| | | <u>\$303,571,667</u> |
| Depreciation reserve: | | |
| Balance, beginning of year | \$238,217,080 | |
| Added by charge to income | 40,581,028 | |
| Proceeds from sales, etc. | <u>916,733</u> | |
| | <u>\$279,714,841</u> | |
| Cost of items disposed of | <u>11,415,958</u> | <u>268,298,883</u> |
| Net book value, end of year | | <u>\$ 35,272,784</u> |

6. Indicate the factors involved in a consideration of the solvency and the solidity of a company.

7. Contrast fixed and current assets from the standpoint of valuation.

8. Discuss the analytical problem presented by the fixed assets.

9. Indicate the basic factors in the valuation of fixed assets.

10. Define book value of fixed assets.

11. Indicate the relation between book value and current value of fixed assets.

12. Comment on the following statement of plant account by a telephone company:

| | |
|--|----------------|
| Telephone plant: | \$390,249,627 |
| Comprised of land and building, rights of way, poles, wire, cable, underground conduits, switchboards, telephones, office furniture, vehicles, tools, etc. | |
| At December 31 this property was classified in the account as follows: | |
| Telephone plant in service. | \$386,258,444 |
| Telephone plant under construction | 2,018,236 |
| Property held for future telephone use. | 1,683,915 |
| Telephone plant acquisition adjustment. | <u>289,032</u> |

13. Comment on the following statement of the plant account of an electric utility company:

| | |
|---|---------------|
| Utility plant, balance before restatement | \$346,105,182 |
| Restatement in compliance with orders of Federal | |

Power Commission and State Board of Public
Utility Commissioners through charges to:

| | | |
|--------------------------------|--------------|----------------------|
| Reserve for depreciation. | \$17,577,372 | |
| Capital surplus | 22,085,703 | |
| Earned surplus..... | 7,455,942 | |
| Other accounts..... | 167,206 | 47,286,223 |
| | | <u>\$298,818,959</u> |

14. Indicate the purpose and methods of writing-down the valuation of the fixed assets of industrial companies.

15. Explain the significance of the rate of return on railroad and utility property investment.

16. Explain the basic factors in the measurement of the productivity of fixed assets.

17. Discuss the meaning of the capital structure of a company and indicate its significance.

18. Explain the calculation of the total capital structure of a railroad.

19. Comment on the general features of railroad capital structures.

20. Explain the calculation of the total capital structure of a public utility company.

21. Explain the calculation of the total capital structure of an industrial company.

22. Discuss the significance of the ratio "Net worth/total debt."

23. Discuss the significance of the ratio "Net fixed assets/funded debt."

24. Discuss the significance of the ratio "Net working capital/funded debt" in the analysis of the funded debt of an industrial company.

Assignment

(a) Determine the reasonableness of the book value of the fixed assets from the following data:

| | <i>This Year</i> | <i>Last Year</i> |
|--|------------------|------------------|
| (1) RAILROAD: | | |
| Net Investment in Transportation Property. . | \$ 478,233,014 | \$ 471,965,484 |
| Operating Revenue..... | 214,779,541 | 208,799,302 |
| (2) PUBLIC UTILITY: | | |
| Net Utility Plant..... | \$ 351,199,302 | \$ 350,328,923 |
| Operating Revenue..... | 83,547,517 | 88,664,458 |
| (3) INDUSTRIAL: | | |
| Net Plant..... | \$ 298,549,884 | \$ 327,229,678 |
| Net Sales..... | 4,262,249,472 | 3,796,115,800 |

(b) Indicate the capital structure of a railroad from the following data:

Balance Sheet:

Capital Stock..... \$562,332,486

Funded Debt..... 612,719,371

Income Statement:

Rent for Leased Roads 20,753,411

(c) Compute the net worth of an industrial company from the following data and determine (1) the amount of stockholders' investment supporting a dollar of total debt and (2) the net working capital per dollar of funded debt:

| | |
|--------------------------|--------------|
| 6% Preferred Stock..... | \$ 2,000,000 |
| 7% Preferred Stock..... | 6,550,500 |
| Earned Surplus..... | 9,065,682 |
| Current Liabilities..... | 18,332,614 |
| Common Stock | 14,024,870 |
| Funded Debt..... | 17,000,000 |
| Capital Surplus..... | 2,968,643 |
| Current Assets..... | 48,454,270 |

- (d) Calculate (1) net worth/total debt, (2) net worth/net fixed assets, (3) net fixed assets/funded debt, and (4) net working capital/funded debt of an industrial company from the following balance sheet items and comment on the current position:

| | <i>This Year</i> | <i>Last Year</i> |
|--|------------------|------------------|
| Current assets..... | \$ 481,202,868 | \$ 467,501,875 |
| Investments..... | 158,911,691 | 145,227,326 |
| Plant and equipment—at cost.... | 1,234,529,247 | 1,055,442,349 |
| Deferred charges. | 13,969,400 | 11,355,129 |
| Reserve for depreciation of plant and equipment | 611,519,445 | 568,237,653 |
| Current liabilities..... | 124,046,017 | 103,721,227 |
| Funded debt..... | 164,208,610 | 142,790,486 |
| Reserves | 34,839,729 | 36,139,419 |
| Capital stock..... | 344,940,600 | 336,527,400 |
| Capital surplus..... | 133,103,357 | 121,997,933 |
| Earned surplus | 475,955,448 | 370,112,561 |

- (e) Compute (1) the load factor and (2) the reserve capacity of an electric utility from the following data:

| | |
|---------------------------|-------------|
| Generating capacity | 720,000 kw. |
| Peak load..... | 675,000 kw. |
| Average load..... | 438,000 kw. |

CHAPTER TWENTY

ANALYSIS OF INCOME STATEMENT

Introduction. Analysis of the income statement involves three considerations: earning power, fixed charges, and dividends. Analysis of earning power requires an examination of the profit-producing capacity of the company—the real worth of the company. The adequacy of the profit should be related to the volume of business and to the amount of invested capital. Analysis of fixed charges involves consideration of the adequacy with which the fixed charges are earned. Analysis of dividend payments involves a study of both the relationship between the net income available and the dividends paid and of the dividend record of the company over a period of years.

Operating revenue or net sales. Analysis of the operating revenue or net sales involves consideration of changes both in the total amount and in the sources of revenue or sales. The trend of those changes and the extent of the changes is usually measured in percentages.

Railroad. Inasmuch as railroads secure their revenue from the transportation of traffic within a given territory, the volume and the character of the traffic as well as the profitableness of operation depend upon the nature of the territory. Analysis of the territory involves consideration of such factors as size, physical features, diversity of population, natural resources, and manufacturing and commercial activities. The distance over which traffic may be carried is limited by the size of the territory served. Since long-haul traffic is relatively more profitable than short-haul traffic, railroads which serve extended areas such as the Pennsylvania and the Atchison, Topeka & Santa Fe have an operating advantage over those serving smaller areas such as the New Haven and the Pere Marquette. Though a densely populated area usually means commercial and industrial activity, which provide heavy freight traffic, it

also usually provides heavy passenger traffic, which is relatively less profitable. The character of the traffic usually reflects the natural resources and the manufacturing and commercial activities of the territory. A territory that enjoys a high degree of activity and a broad diversification of enterprise generally provides a more profitable and a more reliable source of traffic than one that is rich in natural resources.

The operating revenue of Norrestern & West Railway decreased this year to \$273,958,827 after increasing last year to \$334,555,157 from \$312,953,036. The decrease in operating revenue this year represented an 18.1 per cent decline in contrast to a 6.9 per cent increase last year.

| | <i>Operating Revenue</i> | <i>Percentage Change</i> |
|---------------------|------------------------------|------------------------------|
| Previous Year . . . | \$312,953,036 | — |
| Last Year . . . | 334,555,157 | +6.9% |
| This Year. | 273,958,827 | -18.1% |

Sources of operating revenue. The operating revenue of a railroad is obtained from the transportation of freight, passenger, mail, express, and miscellaneous traffic. Freight traffic is the predominant source of operating revenue to all Class 1 railroads, providing approximately 80 per cent of the total revenue, whereas passenger traffic yields about 10 per cent. On the Norrestern & West Railway, freight traffic has provided approximately 92 per cent and passenger traffic about 4 per cent of the road's operating revenue.

Sources of freight traffic. Freight traffic is classified according to the nature of the products carried as agriculture, animal, forest, mines, manufacturing and miscellaneous, and less-than-carload (L.C.L.) freight. Obviously, the relative importance of the various types of freight to any railroad depends upon the nature of the territory the railroad serves. Some railroads, such as the Atchison, Topeka & Santa Fe, have a fairly well diversified traffic. The freight traffic of the Santa Fe is diversified among manufactures (37 per cent), products of mines (27 per cent), and agricultural products (22 per cent). On the other hand, the dependence of the Norrestern & West Railway largely upon one type of freight traffic is evidenced by the following classification of tonnage expressed in percentages:

| | <i>This Year</i> | <i>Last Year</i> | <i>Previous Year</i> |
|-----------------------|------------------|------------------|----------------------|
| Agriculture | 4.1% | 3.2% | 3.4% |
| Animal | 0.6 | 0.5 | 0.5 |
| Forests | 2.3 | 2.3 | 2.2 |

| | | | |
|--------------------|---------------|---------------|---------------|
| Mines..... | 74.7 | 77.6 | 78.0 |
| Mfg. and Misc..... | 17.4 | 15.6 | 15.2 |
| L.C.L..... | 0.9 | 0.8 | 0.7 |
| | <u>100.0%</u> | <u>100.0%</u> | <u>100.0%</u> |

Products of mines account for approximately 77 per cent of the total tonnage. Although products of mines still provide about 75 per cent of the total freight tonnage, this source of freight traffic has declined slightly percentagewise while the other sources have increased.

Changes in the nature of the territory served affect the character of the traffic carried. For example, improvement of port facilities at Mobile, Alabama, and the industrial growth in the South, particularly during the war years, were instrumental in the better diversification of revenue tonnage carried by the Gulf, Mobile & Ohio Railroad. Agricultural and lumber traffic, which formerly accounted for about 50 per cent of freight revenue of the railroad, gave way to increased manufactures and miscellaneous revenues, which in recent years have amounted to over 52 per cent.

Traffic density. A common measurement of the volume of freight traffic per mile of road is expressed as "traffic density." This measurement gives consideration to volume of traffic (in terms of tons carried), distance carried (in terms of the average distance each ton was hauled), and the miles of line operated in the transportation of freight. Specifically, it is expressed as "Total tons carried \times Average distance per ton/Miles of line operated." The Norrestern & West Railway carried 93,376,761 tons of revenue freight an average distance of 275.64 miles for a total of 25,738,000,000 ton-miles. The road operated an average of 5,036.29 miles (freight traffic), or a freight traffic density of 5,110,699, as against a freight traffic density of 7,184,818 and 6,287,806, respectively.

An increase in traffic density indicates an increase in the number of tons carried, or an increase in the average distance hauled, or a decrease in the number of miles operated. In any event, an increase in freight traffic density is indicative of a more intensive use of the miles of line operated. The Pennsylvania Railroad operates over the densest traffic territory in the world. The Erie Railroad's freight density is heavier than that of the New York Central Railroad and of the Baltimore & Ohio Railroad and only moderately below that of the Pennsylvania Railroad, primarily because of favorable connections with other railroads. On the other hand, the traffic density of the Chicago, Rock Island & Pacific Railway and of the St. Louis-San Francisco Railway is normally relatively light.

Revenue per ton-mile. Although the traffic density is important as a measure of the transportation service rendered by the railroad, the profitableness of the traffic is equally important. All classes of freight traffic are not equally important as producers of revenue. For example, the Northern Pacific Railway in a recent year reported freight traffic as follows:

| | <i>Tons</i> | <i>Revenue</i> |
|------------------|---------------|----------------|
| Agriculture..... | 23.4% | 26.0% |
| Animal..... | 2.2 | 4.1 |
| Mines. | 24.5 | 9.7 |
| Forests..... | 25.3 | 19.8 |
| Mfg. & Misc..... | 23.4 | 35.4 |
| L.C.L..... | 1.2 | 5.0 |
| | <u>100.0%</u> | <u>100.0%</u> |

Products of mines represented 24.5 per cent of the total tonnage carried, yet they provided only 9.7 per cent of the total operating revenues, whereas manufactured products represented 23.4 per cent of total tonnage but provided 35.4 per cent of total revenue. From the standpoint of tonnage the road's traffic is well diversified among products of agriculture, mines, forests, and manufactures, but the bulk of the road's operating revenue comes from manufacturing and agricultural products. A high traffic density representing a large amount of low-grade freight may not be as profitable as a lower traffic density consisting largely of high-grade freight. In like fashion a balanced traffic of loaded cars moving in both directions results in greater profits. If, however, almost all the traffic originates at one end of the line and moves toward the other, many empty cars must be handled in the opposite direction. The movement of empty cars involves expense which is not counterbalanced by revenue.

In the instance of the Norrestern & West Railway, products of mines represent 74.7 per cent of the tonnage carried, yet they produce only 56.3 per cent of the revenue. On the other hand, manufactured and miscellaneous products represent only 17.4 per cent of the tonnage but provide 30.0 per cent of the revenue.

| | <i>Tons</i> | <i>Revenue</i> |
|--------------------|---------------|----------------|
| Agriculture..... | 4.1% | 5.3% |
| Animal..... | 0.6 | 2.0 |
| Forests..... | 2.3 | 2.4 |
| Mines..... | 74.7 | 56.3 |
| Mfg. and Misc..... | 17.4 | 30.0 |
| L.C.L..... | 0.9 | 4.0 |
| | <u>100.0%</u> | <u>100.0%</u> |

The relative profitableness of freight traffic is usually measured in terms of "revenue per ton-mile." The Norrestern & West Railway reported average revenue per ton-mile from all revenue freight as 9.77 mills this year compared with 8.56 mills last year and 7.31 mills the previous year. Although the revenue per ton-mile has increased each year, it is still low when compared with the average revenue per ton-mile for other railroads. The low average revenue per ton-mile for the Norrestern & West Railway is due largely to the predominance of mining products, which are considered low-grade freight. The Pennsylvania Railroad and the New York Central Railroad, on the other hand, carry a much larger amount of high-grade freight and, therefore, receive more revenue per ton-mile.

The extent to which severe competition in the territory served may affect the revenue per ton-mile is illustrated by the Illinois Central Railroad. Although the railroad has an average haul of about 250 miles, which is better than the average for other railroads, the average rate per ton-mile is lower than for all Class 1 railroads, partially because of severe competition. On the other hand, the Union Pacific Railroad has not been subject to so severe competition as other railroads, partly because of the long-haul type of traffic handled and the fact that the mileage traverses the Rocky Mountain range. This has been reflected in the better-than-average revenue trends of the Union Pacific.

Public utility. The analysis of the territory served by a public utility is as important as a similar analysis for a railroad. Unlike railroads, which cover wide areas, public utilities operate only within a prescribed territory and, as a result, their opportunity to prosper is definitely limited to an extremely small area. Analysis of the territory served involves consideration of geographic location, population, and resources. Geographic location has important economic and physical aspects. The proximity to established channels of trade provided by the harbors of New York, Boston, Baltimore, Los Angeles, and San Francisco and by the excellent water and rail facilities of Chicago, Cleveland, and Detroit give those cities a distinct economic advantage. The Consolidated Gas, Electric Light & Power Company of Baltimore, Maryland, for example, operates not only in the city of Baltimore, but also over a wide surrounding area. The territory is favored by excellent port facilities, the port of Baltimore being the third largest in the United States from the standpoint of tonnage. Located at the center of the Atlantic sea-

board, with rail access to the Middle West, the region has developed an unusual diversification of trade and industrial activity.

Some territories are primarily industrial while others are commercial, agricultural, or residential. Detroit Edison Company, for example, serves one of the most highly industrialized sections of the country, a section that includes not only the city of Detroit but also Dearborn, Ann Arbor, East Detroit, Hamtramck, Grosse Pointe, Highland Park, River Rouge, and Port Huron. On the other hand, Idaho Power Company serves a distinctly agricultural section. As a rule, industrial and commercial territories offer better markets to utility companies than do agricultural or residential areas. The chief advantage of the large community, however, lies in the diversity of resources which is basic to stability of demand for utility service.

The operating revenue of Turabine Electric Light Company declined this year to \$16,285,056 after rising last year to \$16,356,516 from \$14,831,214. This represented a decline of 0.4 per cent this year compared to a rise of 10.0 per cent last year.

| | <i>Operating Revenue</i> | <i>Percentage Change</i> |
|-------------------------|------------------------------|------------------------------|
| Previous year | \$14,831,214 | — |
| Last year | 16,356,516 | +10.0% |
| This year | 16,285,056 | -0.4% |

Sources of operating revenue. Some companies, such as Boston Edison Company and Chicago District Electric Generating Company, generate power and wholesale it to distributing companies, while other companies, such as New York & Queens Light & Power Company, purchase power and retail it. Turabine Electric Light Company, however, generates electric current which it sells both at wholesale and at retail. The operating revenue of Turabine Electric Light Company consists of sales of electric current at retail and to other electric corporations and of miscellaneous operating revenues.

| | <i>This Year</i> | <i>Last Year</i> | <i>Previous Year</i> |
|-----------------------------|------------------|------------------|----------------------|
| Retail Sales | 76.3% | 73.0% | 74.3% |
| Other Utilities | 22.5 | 25.4 | 25.0 |
| Miscellaneous Revenue . . . | 1.2 | 1.6 | 0.7 |
| | <u>100.0%</u> | <u>100.0%</u> | <u>100.0%</u> |

Local sales at retail not only constitute the most important source of operating revenue, but have increased in relative importance.

Retail sales are classed as industrial, commercial, and domestic. Industrial sales represent the demand for light and power at

wholesale by manufacturing establishments, mines, and foundries. Power is usually sold under either a firm power contract or a surplus power contract. A firm power contract guarantees the customer a constant supply of power. Hydroelectric plants can assure this supply by calling into use, when needed, standby steam generating electric plants. A surplus power contract, on the other hand, supplies the customer with only such power as is in excess of the needs of firm users.

In general the industrial market consumes about half of the kilowatt-hours of electric energy produced annually.¹ Commercial sales are to such consumers as retail stores, offices, and theaters and are principally for lighting purposes. Domestic sales represent the consumption in homes for lighting and for the operation of such household equipment as refrigerators, ranges, water heaters, radios, and irons.

Industrial rates are generally low, largely because of the potential danger of industrial companies establishing their own power plants. The Detroit Edison Company, for example, in a recent year reported the following rates (cents per KWH): domestic—3.09; commercial—2.87; industrial—1.27.

Sales for residential and commercial consumption, on the other hand, are more profitable than industrial sales. A recent report of the Consolidated Edison Company of New York indicated the distinction between the amount of electrical energy and the revenue received:

| | <i>KWH</i> | <i>Revenue</i> |
|-------------------------------|-------------|----------------|
| Residential (Domestic)..... | 22% | 34% |
| Commercial & Industrial.... | 54 | 55 |
| Railroad & Railways..... | 11 | 4 |
| Public Authorities.... | 7 | 5 |
| Other Electric Utilities..... | 6 | 2 |
| | <u>100%</u> | <u>100%</u> |

Residential sales represented only 22 per cent of the total kilowatt-hours but produced 34 per cent of the revenue. The domestic load for lighting in the evening and the current used by other domestic and commercial appliances supplements the demands of industry during the day. By the same token, the industrial demand absorbs the greater part of the expenses and thus reduces the cost of serving the high-rate residential and commercial load.

¹ A kilowatt-hour represents 1,000 watts for one hour. In the manufactured gas industry the heating content of gas is referred to as B.T.U. (British Thermal Unit) which is the quantity of heat required to raise the temperature of a pound of water one degree (Fahrenheit).

As a rule, domestic retail sales represent the most stable source of revenue and industrial retail sales the least stable. The larger the residential or domestic load in relation to the total, the higher will be the degree of stability of revenues. Although the industrial demand is the first to decline in periods of depression, it is the first to respond to improved business conditions. A company serving an industrial area where the big load comes from industrial users has a volume that tends to fluctuate with the fluctuations in the business cycle. The industrial activity of the area is the determining factor as to the amount of the industrial load. Since this activity varies with the business cycle, it results in considerable variation in the operating revenue. Inasmuch as stability of revenues, especially during periods of business depression, is of the utmost importance to public utility companies, a large proportion of the more stable domestic or residential business is preferable to the more fluctuating industrial business. The retail sales of electric current by the Turabine Electric Light Company have been as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------|------------------|------------------|-------------------|
| Domestic | 25.5% | 23.5% | 24.3% |
| Commercial | 23.5 | 22.0 | 22.3 |
| Industrial | 24.7 | 25.1 | 25.0 |
| Street Lighting | 2.6 | 2.4 | 2.7 |
| | <u>76.3%</u> | <u>73.0%</u> | <u>74.3%</u> |

The company has a fairly well diversified market in industrial, commercial, and domestic sales.

For companies that sell more than one type of service, such as the Public Service Electric and Gas Company of New Jersey, the operating revenues may be analyzed according to the type of service. This company derives approximately 75 per cent of operating revenue from electric sales and 25 per cent from the sale of gas.

Industrial. Analysis of an industrial company involves consideration of its market and operating conditions. Unlike railroad and public utility companies, which operate within defined areas, industrial companies may serve national and even international markets. Industrial companies may differ in the stability of demand for their products, in the degree to which they have diversified their products, and in the extent to which they must meet with competitive conditions. In view of the absence of public regulation and of uniformity in operating conditions, the management factor is of unusual importance in the analysis of industrial companies. The basic test of efficiency of management is stability of earning power.

Changes in the net sales of an industrial company may be due to a change in the number of units of product sold, or to a change in the selling price per unit, or to both. For example, the decline in dollar sales of Straddlerocke Products Corporation from \$986,403,723 to \$897,675,545 was reported by the company to have been due entirely to lower prices and in spite of an increase in unit sales. On the other hand, the rise in dollar sales last year was caused largely by increased prices and in the face of a slight decline in unit sales. The net sales of Straddlerocke Products Corporation decreased 9.0 per cent this year after increasing 9.9 per cent last year, which was in line with the trend experienced by its competitor. The percentage change for Straddlerocke Products Corporation, however, was greater, in each direction, than that of its competitor.

| | <i>Straddlerocke</i> | | <i>Competitor</i> | |
|-----------------------|----------------------|-----------------|-------------------|-----------------|
| | <i>Net Sales</i> | <i>% Change</i> | <i>Net Sales</i> | <i>% Change</i> |
| Previous Year | \$897,323,456 | — | \$602,959,406 | — |
| Last Year | 986,403,723 | +9.9% | 649,592,375 | +7.7% |
| This Year | 897,675,545 | -9.0% | 613,763,267 | -5.5% |

Regardless of changes in total sales, sometimes very important changes occur in the source of total sales. While the Diamond Match Company is a dominant factor in the American match industry, it also has diversified interests in lumber, building materials, and chemicals, and in the manufacture of woodenware and pulp and paper products. The sale of matches, which at one time constituted more than half of the sales, has since declined in importance and now provides less than half of the sales. International Harvester Company is the largest company in the agricultural machinery industry, yet sales of motor trucks, service and service parts contribute as much to total sales as sales of farm implements and tractors.

Operating ratio. The operating ratio refers to the relation of operating expenses to operating revenue or net sales. This relationship is expressed as "Operating expenses/operating revenue or net sales" and indicates the expenses incurred per dollar of operating revenue or net sales. The ratio is commonly used to measure the operating efficiency of the management, on the theory that efficient management results in a stable or decreasing operating ratio.

Operating ratio, however, is subject to distinct limitations. Operating expenses may be classed as fixed and variable. Theoretically, a rising ratio should reflect decreased efficiency, yet it may reflect the effects of a business depression. Managements have

found that in a period of declining sales, operating expenses cannot always be reduced proportionately and there is a minimum below which fixed operating expenses cannot be reduced. On the other hand, while theoretically a decrease in the ratio would reflect greater efficiency, it may actually reflect a deliberate curtailment by the management of such variable expenses as maintenance or depreciation in an effort to report a more favorable operating profit. The operating ratio is affected by changes in operating revenue or net sales as well as in operating expenses and must be judged in terms of the average operating ratio for the industry.

Railroad. The operating ratio of a railroad is the ratio of all operating expenses, excluding taxes, to operating revenue. The Norrestern & West Railway had operating expenses of \$219,379,-375 and operating revenue of \$273,958,827, and the operating ratio was 80.1 per cent, compared with 75.9 per cent and 74.4 per cent, respectively. On the other hand, the operating ratio of the New York Central Railroad is somewhat higher because of the relatively high expense of handling passenger business and the large amount of light-density branch mileage.

It is not practical, however, to set up a maximum standard for the operating ratio, because some component parts should be large while others should be small. Analysis of the operating ratio involves consideration of the transportation ratio and the maintenance ratio.

Transportation ratio. The transportation ratio is expressed as "Transportation expense/operating revenue" and seeks to measure the relation of direct operating expenses to operating revenue. Obviously, a low transportation ratio for a railroad is an excellent commendation. The transportation expenses of the Norrestern & West Railway amounted to \$99,674,091, or 36.3 per cent of operating revenue, compared to 35.9 per cent and 35.7 per cent, respectively. Such railroads as Chesapeake & Ohio and Norfolk & Western are able to report a low transportation ratio largely because of their favorable location. All roads in the Pocahontas District benefit from the proximity to the leading coal-mining regions, since they not only buy fuel cheaply but carry to other users a commodity that can be moved with maximum economy. One important factor contributing to lower transportation costs in recent years is the increased use of Diesel locomotives with their greater fuel economy, ability to pull heavy loads, and more continuous service without maintenance.

Maintenance ratio. The transportation ratio is closely related to the maintenance ratio. Large expenditures for maintenance should increase the efficiency of the railroad and consequently reduce the transportation ratio. By the same token, skimping on maintenance reduces the efficiency and increases the transportation ratio. Railroads that reduced their maintenance ratio during the depression of the 1930's began to experience a constant rise in the transportation ratio. If equipment breaks down while in operation considerable abnormal costs will be incurred. For this reason, therefore, analysis of maintenance and transportation expense is necessary in interpreting the operating ratio. An operating ratio of 76 per cent of which maintenance represents 41 per cent is preferable to an operating ratio of 70 per cent of which maintenance represents 28 per cent. For example, in the following situation, Railroad A has a higher operating ratio than Railroad B, yet analysis of

| | <i>RR. A</i> | <i>RR. B</i> |
|----------------------------|--------------|--------------|
| Operating Ratio | 76% | 70% |
| Maintenance—W. & S. . . | 18 | 10 |
| Maintenance—Equip.. . . | 23 | 18 |
| Transportation.. . . . | 30 | 36 |
| Traffic & General. | 5 | 6 |

the maintenance ratio reveals that Railroad A is reinvesting a considerably larger percentage of operating revenue in way and structures and in equipment than Railroad B. This is also reflected in the lower transportation ratio enjoyed by Railroad A. A commonly accepted standard operating ratio is 72–75 per cent in which maintenance is at least 32 per cent. The increase in the operating ratio of the Norrester & West Railway has been due to the increase in both the maintenance and the transportation ratios.

| | <i>Operating Ratio</i> | <i>Maintenance Ratio</i> | <i>Transportation Ratio</i> |
|------------------------|----------------------------|------------------------------|---------------------------------|
| Previous Year. | 74.4% | 32.2% | 35.7% |
| Last Year..... | 75.9 | 32.9 | 35.9 |
| This Year..... | 80.1 | 36.5 | 36.3 |

One of the important contributing factors to the better-than-average percentage of operating revenue carried down to net railway operating income by the Louisville & Nashville Railroad was the reduction in transportation expense, a good measure of operating efficiency.

Public utility. The inelastic rate structure of public utilities generally causes operating expenses to rise and decline with greater rapidity than operating revenue. Although the operating ratio

tends to fall in a period of slowly falling prices, a pronounced decline in operating revenue may more than offset the decline in operating expenses with a consequent rise in the operating ratio. The operating ratio of Turbine Electric Light was 83.3 per cent, compared with 84.3 per cent and 79.7 per cent, respectively. Analysis of the factors influencing the decrease this year involves consideration of maintenance, depreciation, taxes, and operating expenses in relation to operating revenue:

| | <i>Maintenance</i> | <i>Depreciation</i> | <i>Taxes</i> | <i>Operating Expense</i> | <i>Total</i> |
|---------------------|--------------------|---------------------|--------------|--------------------------|--------------|
| Previous Year... .. | 4.8% | 1.4% | 15.8% | 57.7% | 79.7% |
| Last Year... .. | 4.5 | 3.4 | 13.6 | 62.8 | 84.3 |
| This Year... .. | 5.2 | 5.3 | 15.4 | 57.4 | 83.3 |

The operating ratio this year decreased in spite of an increase in the maintenance, depreciation, and tax ratios but largely because of a decline in the operating expense ratio. Usually the computation of operating ratio excludes taxes because (a) if a company has had a large debt reduction during the year, under the tax law it can set it up as an offset and will not have to pay such high taxes and (b) federal taxes are not controllable by the management. A better test of the efficiency of the company is afforded, therefore, by the exclusion of taxes since, other things being equal, high taxes usually reflect a high degree of successful operation. Excluding taxes the operating ratio this year was 67.8 per cent compared to 70.7 per cent and 63.9 per cent, respectively. On the basis of operating expenses alone, however, which more or less reflect the direct cost of providing the service, the ratio of 57.4 per cent showed a decided improvement over the last two years. The commonly accepted maximum operating ratios are: steam electric plant, 70 per cent; hydroelectric plant, 55 per cent; manufactured gas, 80 per cent; telephone and telegraph, 75 per cent; water, 40-50 per cent; traction, 80 per cent.

Companies that sell more than one type of service and report operating revenues and deductions applicable to each type provide the investor with a means of measuring the profitability of each type of operation. The operating ratio of the Public Service Electric and Gas Company of New Jersey is broken down according to departments—electric and gas.

Industrial. The operating ratio of industrial companies varies according to the industry. In some industries, such as meat-packing, chain stores, and mail-order houses, a high inventory turnover

permits some companies to show satisfactory profits despite a high operating ratio. Few industrial companies, however, report an operating ratio under 80 per cent. Straddlerocke Products Corporation, with operating expenses of \$840,911,963 and net sales of \$897,-675,545, reported an operating ratio of 93.7 per cent, compared with 95.9 per cent and 95.8 per cent, respectively. Its competitor reported an operating ratio of 92.1 per cent as against 93.2 per cent and 94.6 per cent, respectively.

Inasmuch as maintenance and depreciation are such variable factors in industrial companies, analysis of the operating ratio involves consideration of those charges. The operating ratio of Straddlerocke Products Corporation declined from 95.9 per cent to 93.7 per cent, in spite of an increase in maintenance and depreciation from 3.3 per cent to 4.0 per cent.

Operating profit. The net operating income or profit represents the excess of operating revenue or net sales over operating expenses. It is the balance from operations which, together with other income, is available for the payment of fixed charges and preferred and common stock dividends.

Non-operating income. The three general sources of non-operating income to a company are temporary investments, permanent investments, and property. Marketable securities carried as current assets usually consist of federal, state, and municipal bonds, which afford a source of constant though not substantial income. Investments in subsidiary companies, consisting of bonds but more usually of stock, may represent a fairly constant and possibly important source of income. Patents, processes, or real property leased to other companies on a royalty or rental basis sometimes provide a fairly substantial income. A report of General Electric Company, for example, lists numerous sources of non-operating income:

| | |
|---|---------------------|
| Interest and dividends from affiliated companies and miscellaneous investments | \$13,024,505 |
| Income from marketable securities | 1,063,202 |
| Interest on bank balances and receivables | 225,898 |
| Royalties and sundry revenue—net | 1,758,703 |
| | <u>\$16,072,308</u> |

Analysis of non-operating income is important to determine the extent to which it (a) is recurring or non-recurring and (b) acts as a cushion to the stability of total income. Non-operating income

may be of a recurring nature—income received annually with a relatively high degree of certainty—or of a non-recurring nature—income derived currently and not likely to recur. For example, Union Pacific Railroad has received a substantial average annual non-operating income in recent years, largely in the form of dividends and interest and from such miscellaneous operations as Sun Valley resort facilities, oil wells, and other sources. The Southern Pacific Company has extensive interests in traction, lumber, oil, coal, real estate, bus, truck, and miscellaneous enterprises, including a 50 per cent control of the profitable Pacific Fruit Express Company. Those interests provide important sources of non-operating income, which in recent years was equal to more than one-third of the annual fixed charges. Although the Pennsylvania Railroad system has a large capitalization, the debt structure is not so heavy as it appears on the surface because of its extensive holdings of leased line securities. A substantial portion of the amount charged to rent for leased roads is returned to the parent company as interest and dividend income. Du Pont and Company also receives substantial recurring other income, most of which is in the form of dividends on its General Motors common stock. General Electric Company derives considerable recurring non-operating income largely in the form of interest and dividends from affiliated companies and miscellaneous investments. The sizable recurring non-operating income of Cluett, Peabody & Company is received primarily in the form of royalties on the Sanforizing process.

Non-recurring non-operating income, on the other hand, is income currently received but not likely to recur. For instance, United States Steel Corporation obtained a reported profit of \$7,000,000 from the sale of Gary Heat, Light & Power Company, and Swift & Company gained a reputed profit of \$7,500,000 from the sale of refrigerator cars and other assets. Johns-Manville Corporation in one year received \$560,000 in dividends from Johns-Manville Credit Corporation. Inasmuch as this dividend was paid out of the earnings of the subsidiary for the previous three and one-half years, it could not be considered in its entirety as a recurring non-operating income, as confirmed by the fact that the dividend received from the subsidiary the following year was only \$150,000. The disposition of investments may also affect non-operating income. As a result of the sale of 100,000 shares each of preferred and common stocks of the Michigan Sugar Company by the Amer-

ican Sugar Refining Company, income from investments for the latter company declined from \$647,939 in the year preceding the sale to \$386,676 in the year following the sale.

Non-recurring non-operating income may be important to the investor in any one year, but its long-term importance is limited by the very fact that it is non-recurring. On the other hand, recurring non-operating income is important in that it is recurring. During the period 1925-1944 Du Pont & Company reported average net income of \$310,500,000, of which \$131,600,000 or 42.3 per cent was derived from the General Motors investment. It was not until 1946 that the income from the company's chemical operations was more than sufficient to cover its dividend payment without including income from its General Motors holdings.

The non-operating income received by the companies under analysis was as follows:

| | <i>N & W</i> | <i>Turbine</i> | <i>Straddlerocke</i> |
|---------------------|------------------|----------------|----------------------|
| Previous Year. | \$2,395,021 | \$160,890 | \$2,438,404 |
| Last Year | 2,274,413 | 248,798 | 2,465,639 |
| This Year | 1,298,606 | 184,994 | 2,444,793 |

Non-operating income/total income. The extent to which non-operating income acts as a cushion to the stability of total income is measured by the ratio "Non-operating income/total income." Obviously, the higher the percentage the greater is the cushion. Generally speaking, however, non-operating income is seldom a substantial cushion, since stockholders depend primarily upon operating income for dividends.² The primary difference between companies lies in the extent to which non-operating income acts as a cushion. Non-operating income is of minor significance to the stockholders of Norrestern & West Railway, Turbine Electric Light Company, and Straddlerocke Products Corporation, as evidenced by the following percentages of non-operating income to total income:

| | <i>N & W</i> | <i>Turbine</i> | <i>Straddlerocke</i> |
|-------------------------|------------------|----------------|----------------------|
| Previous Year | 5.3% | 6.2% | 6.0% |
| Last Year | 4.8 | 10.7 | 5.9 |
| This Year | 4.8 | 6.9 | 4.1 |

Income available for fixed charges. The total income, derived as operating profit and as non-operating income, is usually subject to certain miscellaneous deductions. The balance after those deductions is the amount available for the payment of the fixed

² Non-operating income of the Union Pacific Railroad declined from \$21,598,473 in 1929 to \$12,518,455 in 1936.

charges. Strictly speaking, the income available for fixed charges in an industrial company is the income before income taxes, but it is the usual practice to consider the income available after taxes. Obviously, it gives a more conservative result. The investor wishes assurance that the income is not only sufficient but adequate to provide a margin of safety. A company whose income available for fixed charges is just enough to pay the fixed charges would face possible default should it suffer a reduction in gross revenue or an increase in operating expenses or both.

Times fixed charges earned. The adequacy with which the fixed charges have been earned is determined by the ratio "Income available for fixed charges/fixed charges," more generally referred to as the "Times fixed charges earned." A company with \$10,500,000 available for fixed charges and fixed charges of \$4,600,000 has earned the fixed charges 2.3 times ($\$10,500,000/\$4,600,000$). On the other hand, a company that has available only \$5,700,000 with which to meet fixed charges of \$3,900,000 has earned the fixed charges 1.4 times ($\$5,700,000/\$3,900,000$). Obviously, the greater the number of times the fixed charges have been earned, the stronger is the position of the bondholders.

Fixed charges/operating revenue or net sales. Since in most companies the basic source of income with which to meet the fixed charges is operating revenue or net sales, the fixed-charge burden should be related to operating revenue or net sales. The ratio "Fixed charges/operating revenue or net sales" measures the extent to which the fixed charges are a burden upon the operating revenue or net sales. The fixed charges reflect the financial policy of the company in raising capital through the sale of bonds or notes. Since those charges remain relatively fixed while operating revenue or net sales are subject to change, it is essential, from the standpoint of the bondholder, that fixed charges bear a reasonable relationship to the operating revenue or net sales. Obviously, the greater the degree of stability in operating revenue or net sales, the larger is the percentage of fixed charges which the company can afford to assume; conversely, the greater the fluctuations to which the operating revenue or net sales are subject, the lower is the appropriate percentage in fixed charges.

Railroad. The Norrestern & West Railway reported \$23,027,922 available to pay fixed charges of \$11,670,025, or sufficient to pay the fixed charges 2.0 times, compared to 3.4 times and 5.0 times, respectively. During this period the company earned the

fixed charges an average of 3.5 times. The usual minimum requirement is an average of 2.5–3.0 times for a period of five years. The fixed charges in this instance, however, have been earned by a decreasing margin.

In general, the fixed charges of a railroad ought not to exceed 12 per cent of the operating revenue. The fixed-charge burden of the Norrestern & West Railway does not rest heavily upon operating revenue, as evidenced by the fact that the fixed charges represented 4.2 per cent of the operating revenue, compared to 2.8 per cent and 2.8 per cent, respectively.

Public utility. The Turabine Electric Light Company had \$2,911,975 available for fixed charges of \$436,115, or sufficient to meet the fixed charges 6.7 times, compared to 5.8 times and 4.3 times, respectively. The income available for the payment of the fixed charges should be at least 2.5–3.0 times the fixed charges.

Generally speaking, fixed charges should not exceed 12 per cent of the operating revenue for a steam electric plant, a manufactured gas plant, and a telephone or telegraph company; 15 per cent for a street railway company; 20 per cent for a hydroelectric plant; and 20–30 per cent for a water company. The fixed charges of the Turabine Electric Light Company were a minor burden upon the operating revenue, representing 2.8 per cent, 3.0 per cent, and 4.7 per cent, respectively.

Industrial. Straddlerocke Products Corporation reported income of \$57,640,119, or sufficient to pay the fixed charges of \$2,231,266 approximately 26.2 times, compared with 22.8 times and 28.2 times, respectively. In computing the “Times fixed charges earned” some analysts include the depreciation charge in determining the “income available for fixed charges” on the theory that depreciation is not payable in cash and, therefore, the cash profits before depreciation charges are available for fixed charges. On this basis, the company had \$72,584,392 available for fixed charges or at the rate of 33.0 times, compared with 29.6 times and 35.9 times, respectively. The more common and conservative practice in industrial analysis, however, is to compute the “Times fixed charges earned” after federal income taxes. The income available for fixed charges after providing for federal taxes amounted to \$35,490,119, or 16.1 times fixed charges, compared with 14.3 times and 17.5 times. The fixed charges should be earned an average of at least 3.5–4.0 times over a period of five years.

The fixed charges of an industrial company ought not to exceed

3 per cent of the net sales. Fixed charges of Straddlerocke Products Corporation were a negligible burden on net sales representing only 0.2 per cent of net sales in each of the three years under consideration.

Net income. Net income is the balance of earnings after fixed charges and taxes and is the amount available for distribution to the stockholders as dividends. It represents the return on the stockholders' investment. This rate of return is usually measured in an industrial company by the ratio "Net income/net worth." The net income of Straddlerocke Products Corporation of \$33,258,-853 represented a return of 17.5 per cent on the net worth of \$189,-608,481, compared to 16.4 per cent and 16.5 per cent, respectively.

The ratio "Net income/net worth," especially when used in comparing two years, may be open to a distortion created by any increase in funded or unfunded debt. A rise in the return on net worth may be due either to increased earning power on the present capital or to additional capital upon which more net income has been earned. Additional borrowing by a company will increase the total funds in the business without affecting net worth, yet the use of such additional funds should increase net income. For example, assume Company A borrows \$3,000,000 during this year.

| | <i>This Year</i> | <i>Last Year</i> |
|---------------------------|------------------|------------------|
| Net Income..... | \$2,000,000 | \$1,000,000 |
| Net Worth | \$10,000,000 | \$10,000,000 |
| Net Income/Net Worth..... | 20.0% | 10.0% |

The net income rose from \$1,000,000 to \$2,000,000 and the rate of return from 10 per cent to 20 per cent. This year, however, the company had \$3,000,000 additional capital upon which to earn more income. The ratio "Net income/total assets" is used, therefore, to check upon any distortion that may arise from the use of increased funds through borrowing. A rise in the ratio "Net income/net worth" accompanied by a decline in the ratio "Net income/total assets" may indicate increased borrowed funds rather than increased earning power. For example, during the period 1934-1937, the ratio "Net income/net worth" for International Business Machines Corporation increased, whereas the ratio "Net income/total assets" decreased. The continuous rise in the former ratio was due in part to the financing through the sale of bonds beginning in 1936 which increased the total funds as indicated by the decline in the latter ratio.

INVESTMENT ANALYSIS

| | <i>Net Income/ Net Worth</i> | <i>Net Income/ Total Assets</i> | <i>Funded Debt</i> |
|-----------|----------------------------------|-------------------------------------|------------------------|
| 1934..... | 14.5% | 12.3% | None |
| 1935..... | 15.0 | 12.2 | None |
| 1936..... | 15.3 | 11.5 | \$10,000,000 |
| 1937..... | 15.4 | 10.9 | 15,000,000 |

On the other hand, in the instance of Straddlerocke Products Corporation, the rise in "Net income/net worth" this year was accompanied by an increase in "Net income/total assets" which is indicative of increased earning power.

| | <i>This Year</i> | <i>Last Year</i> | <i>Previous Year</i> |
|------------------------------|------------------|------------------|----------------------|
| Net Income/Net Worth | 17.5% | 16.4% | 16.5% |
| Net Income/Total Assets..... | 10.3% | 7.9% | 8.3% |
| Funded Debt..... | \$80,500,000 | \$81,500,000 | \$49,000,000 |

The practice followed by many industrial companies of making appropriations of net income in contemplation of replacement of facilities at higher price levels has raised the question of the proper statement of "true" net income. Is the "true" net income stated before or after such appropriation? The "true" net income is that stated before the appropriation and as such states the earning power of the company. For example, Corn Products Refining Company in a recent year reported as follows:

| | |
|--|---------------------|
| Income, before provision for taxes on income . . . | \$30,415,301 |
| Provision for taxes on income..... | 13,377,322 |
| Net income for the year..... | <u>\$17,037,979</u> |
| Appropriation of net income for replacement of facilities at current cost..... | <u>1,800,000</u> |
| Balance transferred to surplus..... | <u>\$15,237,979</u> |

In this instance the "true" net income or earning power was at the rate of \$17,037,979.

Preferred stock. The net income represents the income available for the payment of dividends after provision for income taxes. If the company has preferred stock as well as common stock outstanding, the former usually has a prior interest in the income. The strength of the interest of the preferred stock is measured in terms of (a) "Earned per share" and (b) "Times preferred stock dividend requirement earned."

Earned per share. The amount earned per share of preferred stock is determined by the ratio "Net income/number of shares of preferred stock outstanding." For example, a rubber company, with net income of \$15,204,270 and 610,854 shares of preferred stock outstanding, earned at the rate of \$24.89 a share of preferred

stock (\$15,204,270/610,854). On the other hand, a sugar company, with net income of \$5,389,581 and 450,000 shares of preferred stock outstanding, earned at the rate of \$11.98 a share (\$5,389,581/450,000).

Times earned. The amount earned per share, however, does not indicate the adequacy or inadequacy of earnings available for the preferred stock dividend unless related to the dividend requirement. If, in the case of a stock which earns at the rate of \$10 a share, the dividend requirement is \$5 a share, the earnings are more adequate than if the dividend requirement were \$7 a share. The preferred stockholder, like the common stockholder, is interested in the earnings. Although the earnings in excess of the preferred stock dividend requirement do not accrue directly to the benefit of the preferred stock (except in the case of participating preferred), the excess earnings do increase the value of the common stock equity and thus indirectly strengthen the position of the preferred stock. Earnings of \$10 a share on a preferred stock with a dividend requirement of \$5 simply indicate the margin of safety on the preferred stock. For this reason a better measurement of the adequacy of earnings is the "Times preferred stock dividend requirement earned." The annual preferred stock dividend requirement is \$5 a share for the rubber company and \$7 a share for the sugar company. The dividend requirement was earned 5.0 times on the former's preferred stock and 1.7 times on the latter's.

In view of the fact, however, that the fixed charges are a prior claim against the earnings and are continuous, the "Times preferred stock dividend requirement earned" is usually computed on an over-all basis. Assume that a company with fixed charges of \$1,000,000 and 100,000 shares of \$5 preferred stock outstanding has \$2,000,000 available for fixed charges after provision for income taxes in 1950. The balance available for the preferred stock dividend requirement after the payment of the fixed charges is \$1,000,000, or at the rate of \$10 a share. Since the preferred stock dividend requirement is \$5 a share, the dividend requirement of \$500,000 has been earned twice. Assume now that in 1951 the amount available for fixed charges after provision for income taxes declines to \$1,500,000. In this instance the balance available after the payment of the fixed charges for the preferred stock requirement would equal the dividend requirement.

This calculation of the number of times the preferred stock dividend requirement has been earned ignores the fact that (a) the

amount available for the preferred stock dividend after provision for income taxes is the balance after the payment of fixed charges and (b) since the fixed charges remain relatively constant, changes in the amount available for fixed charges affect the balance available for the preferred dividend. On an over-all basis, the preferred stock dividend requirement was earned 1.3 times in 1950 ($\$2,000,000 / \$1,000,000 + \$500,000$) and once in 1951 ($\$1,500,000 / \$1,000,000 + \$500,000$). The decline in the number of times the preferred stock dividend requirement was earned is not measured as from 2 to 1 but as from 1.3 to 1. In the instance of the rubber company previously referred to, the net income of \$15,204,270 was the balance after provision for income taxes and after the payment of fixed charges of \$3,102,799. On an over-all basis the preferred stock dividend requirement was earned 2.9 times ($\$18,307,069 / \$3,102,799 + \$3,054,270$).

The Norrestern & West Railway, with 196,629 shares of preferred stock outstanding and net income of \$11,357,897 earned at the rate of \$57.76, compared to \$150.68 and \$178.93, respectively. On an over-all basis, the preferred stock dividend requirement was earned 1.8 times this year, compared to 3.8 times and 4.6 times, respectively. In the instance of Turabine Electric Light Company, with net income of \$2,475,861 and 160,000 shares of preferred stock outstanding, earnings on the preferred stock were at the rate of \$15.47 a share, whereas the annual preferred stock dividend requirement of \$312,000 was earned 3.9 times on an over-all basis. In general, the preferred stock dividend requirement should be earned, on an over-all basis, at least $2-2\frac{1}{2}$ times in a railroad and a utility and 3.0–3.5 times in an industrial over a period of years.

Common stock. The balance of net income after provision for the preferred stock dividend requirement is available for distribution to the common stockholders. This balance and the amount actually paid the common stockholders is usually expressed in terms of a share of the common stock outstanding. The number of times that the aggregate fixed charges and the preferred stock dividend requirement have been earned is as important to the common stockholders as it is to the bondholders and preferred stockholders. Although the amount available for the common stockholders cannot be determined until after provision has been made for the fixed charges and the preferred stock dividend requirement, the greater the number of times the aggregate fixed charges and preferred requirement have been earned, (a) the greater is the amount avail-

able for the common stockholders, (b) the more favorable the credit rating of the company, (c) the more favorable the prospects of financing future requirements on a low-cost basis, and (d) the greater the investment value of the company's securities.

Earned per share. The amount "Earned per share" is calculated as "Net income—preferred stock dividend requirement/number of shares of common stock outstanding." For example, Goodyear Tire & Rubber Company, with net income of \$15,204,270 and a preferred stock dividend requirement of \$3,054,270, earned at the rate of \$5.90 a share on 2,058,677 shares of common stock ($\$15,204,270 - \$3,054,270 / 2,058,677$).

The determination of the net income figure to be used raises the question as to whether it should be the amount after or before the deduction of federal income taxes. From the standpoint of current operations, the net income after federal taxes would be preferable since it represents the current amount which accrues to the benefit of the stockholders. From the standpoint of a survey covering several years, and in consideration of the wide fluctuations in tax rates over a period of years, it would be desirable also to calculate the net income before federal income taxes. This tends to eliminate the fluctuations due to tax requirements over which the management has no control and to emphasize the fluctuations in earnings resulting from conditions over which the management presumably has control.

In calculating the amount "Earned per share," however, allowance is made for the required dividend on any stock issues with a priority right as to dividends regardless of (a) whether such dividends were paid on the preferred stock and (b) whether any accumulations of unpaid preferred stock dividends exist, and (c) regardless of the payment of dividends on the preferred stock which are in excess of the annual dividend requirement and thus represent the reduction of accumulations of dividends in arrears. Assume a company has outstanding 1,000,000 shares of \$5 cumulative preferred stock and 5,000,000 shares of common stock. If it has net income of \$5,000,000 and pays a \$4 dividend on the preferred stock, there is \$1 preferred stock dividend arrearage, and the rate of earnings on the common stock is not 20 cents a share but nil. There are no earnings available for the common stock until provision has been made for the full preferred stock dividend requirement. If, in the next year, the net income is \$10,000,000 and the company pays \$6 dividend on the preferred stock, representing \$1 arrearage

and \$5 regular dividend, the earnings per share of the common stock are at the rate of \$1.00 per share ($\$10,000,000 - \$5,000,000 / 5,000,000$).

In like fashion, the calculation of "Earned per share" must give consideration to any participating feature possessed by the preferred stock. For example, one company with 600,000 shares of preferred stock and 856,600 shares of common stock outstanding, reported net income of \$3,453,546. The preferred stock was entitled to \$1.50 per share per annum and then, after the common had received \$1.50, participated equally share for share in further distribution until it had received an additional 50 cents per share. Inasmuch as the maximum dividend which the preferred could receive was \$2 per share, or a total of \$1,200,000, the balance of \$2,253,546 ($\$3,453,546 - \$1,200,000$) was available for the common stock which was at the rate of \$2.63 per share ($\$2,253,546 / 856,600$).

The "Earned per share" calculation is shown as a "Deficit per share" of common stock if earnings are insufficient to cover the dividend requirement on the preferred stock or if there are no senior stocks and instead of a net income there is a net loss. If, in the above illustration, the net income for the next year is \$2,000,000, the earnings available for the common stock after provision for the preferred stock dividend requirement is a net loss of \$3,000,000. The rate of net loss is 60 cents per share on the common stock.

The significance of the calculation "earned per share" lies in its indication of the rate of earning power of the common stock. Norwestern & West Railway, with net income of \$10,669,695 ($\$11,357,897 - \$688,202$) and 7,817,098 shares of common stock outstanding, earned at the rate of \$1.36 per share of common stock compared with \$3.72 and \$4.44, respectively. Turabine Electric Light Company, with 844,000 shares of common stock and \$2,397,861 of net income ($\$2,475,861 - \$78,000$), earned at the rate of \$2.84 a share compared to \$2.76 and \$2.90, respectively. In computing the net income available for the common stock, the annual dividend requirement on the preferred stock is deducted from the net income available for both preferred and common stock. The net income of Turabine Electric Company was \$2,475,861 and the annual preferred stock dividend requirement was \$312,000, leaving a balance for the common stock of \$2,163,861. In this instance, however, the preferred stock was issued at the beginning of the fourth quarter of this year with the result that the preferred stock dividend requirement for this year was only \$78,000 ($\$312,000 / 4$). The net

income available for the common stock, therefore, was \$2,397,861. Straddlerocke Products Corporation, with net income before federal income taxes of \$55,408,853 and 6,313,212 shares of common stock outstanding, earned at the rate of \$8.78 a share, compared to \$6.61 and \$6.08, respectively. On the basis of \$33,258,853 net income after federal income taxes, it earned at the rate of \$5.26 per share, compared with \$4.03 and \$3.68, respectively.

When comparing the earnings per share of a common stock over a period of years, it may be necessary in some instances to give recognition to changes in the number of shares outstanding. For example, one company reported earnings at the rate of \$8.90 a share this year compared to \$8.85 last year and \$8.40 the previous year.

| | <i>Net Income</i> | | <i>Dividend</i> | | <i>Number of Shares</i> |
|------------------------|-------------------|------------------|-----------------|--------------|-------------------------|
| | <i>Total</i> | <i>Per Share</i> | <i>Cash</i> | <i>Stock</i> | |
| Previous Year. | \$8,318,942 | \$8.40 | \$6 | 5% | 990,116 |
| Last Year. | 9,204,885 | 8.85 | 6 | 5 | 1,039,546 |
| This Year. | 9,711,356 | 8.90 | 6 | 5 | 1,091,443 |

The company followed the policy of paying the annual dividend partly in cash at the rate of \$6 a share and partly in stock at the rate of 5 per cent a share. The payment of part of the dividend in stock resulted in an increase in the number of shares of stock outstanding from 990,116 the previous year to 1,091,443 this year. The net income increased from \$8,318,942 the previous year to \$9,711,356 this year, but to express the increased earning power in terms of a share as an increase from \$8.40 to \$8.90 a share is to ignore the increased number of shares outstanding. The \$8.40 reported the previous year was based upon 990,116 shares outstanding, whereas the \$8.90 reported this year was based upon 1,091,443 shares. In order to measure more accurately the increase in earning power on a common basis, it is necessary to adjust the earnings per share as reported the previous year and last year to the same basis as this year's computation, namely, 1,091,443 shares outstanding. Assuming, therefore, that there had been 1,091,443 shares outstanding the previous year and last year, the reported net income of \$8,318,942 the previous year and of \$9,204,885 last year would have been at the rate of \$7.62 and \$8.43, respectively. On this basis the earning power increased from \$7.62 a share the previous year to \$8.90 this year.

Similarly, a company reported net income of \$28,100,534 in one year which, on the basis of 2,506,712 shares outstanding, was at the rate of \$11.21 per share compared to a net income of \$23,553,951

and a rate of \$16.44 a share the preceding year. On a per share basis it would appear that the company's earning power had decreased; actually, however, it had increased as evidenced by the rise in net income from \$23,553,951 to \$28,100,534. In view of the fact that the company had split up the stock by issuing three-quarters of a share additional for each share held, it is necessary to adjust the reported earnings per share for the preceding year to reflect the split-up. On this basis, the adjusted earnings per share is \$9.40 ($\$23,553,951/2,506,712$ shares). Earnings per share, therefore, actually increased from \$9.40 to \$11.21.

Dividend. The amount of dividend paid on the common stock is discretionary with the management, since no definite rate is provided for in the certificate of incorporation. In some instances, however, the cash dividend that may be paid on the common stock may be restricted by the terms of the indenture under which outstanding bonds have been issued. For example, one industrial company's debenture bond provides in substance that cash dividends may be paid on the common stock only if after the payment of the dividend (a) the balance of consolidated earned surplus exceeds \$35,000,000 and (b) consolidated tangible assets, after deducting consolidated liabilities other than consolidated funded indebtedness, shall be equal to at least $1\frac{3}{4}$ times the consolidated funded debt. Restrictions upon the payment of dividends on the common stock are also found in the indentures covering the American Home Products Corporation 3s of 1965, the Celotex Corporation of America $3\frac{1}{4}$ s of 1960 and 3s of 1965, the P. Lorillard Company 3s of 1963 and the Republic Steel Corporation 3s of 1965. Restrictions are also found in the preferred stock provisions of Cudahy Packing Company and of Florida Power Corporation.

The dividend paid is usually expressed in terms of a share of stock and may be calculated as "Total dividend paid/number of shares outstanding." Norrestern & West Railway paid a total dividend of \$17,588,466 on 7,817,098 shares of common stock or at the rate of \$2.25 a share, compared to \$3.00 a share last year and \$3.56 a share the previous year. Turabine Electric Light Company distributed \$2,311,585 as dividend on 841,510 shares of common stock, or at the rate of \$2.75 a share, compared to \$2.75 a share last year and \$2.75 a share the previous year. Straddlerocke Products Corporation with 6,313,212 shares of common stock outstanding paid a dividend of \$13,860,162 or at the rate of \$2.20 a share, compared to \$1.80 a share last year and \$1.80 a share the previous year.

Dividend/earned. The policy of the management with respect to the distribution of earnings may be gauged by an analysis of the relation between the dividend paid per share and the amount earned per share, or "Dividend per share/earned per share." For example, Norrestern & West Railway earned at the rate of \$1.36 a share and paid a dividend at the rate of \$2.25. It distributed 165.4 per cent of earnings compared to 80.6 per cent last year and 80.1 per cent the previous year. Turabine Electric Light Company distributed \$2.75 out of earnings of \$2.84 a share or 96.8 per cent, compared with 99.6 per cent last year and 94.8 per cent the previous year. The indenture under which the debenture bonds of the company are outstanding contains provisions with respect to the payment of dividends on the common stock. Under the provisions approximately \$73,000,000 of earned surplus was restricted this year. Straddlerocke Products Corporation earned at the rate of \$5.26 a share and distributed \$2.20 a share or 41.8 per cent of earnings, compared to 44.6 per cent last year and 48.9 per cent the previous year. On the other hand, the Standard Oil Company of Indiana over a period of years has distributed a small percentage of earnings because of its policy of plowing an increasing amount of earnings back into the business.

Price/earned. The market price of the common stock represents the market's appraisal of the value of the stock and reflects (a) the rate at which the market capitalizes the earnings of the company and (b) the rate of return or yield to the stockholder on the basis of the current annual dividend rate. In the former the market price is related to the rate of earnings and in the latter to the rate of dividend. The rate at which the securities market capitalizes the earnings of a company is indicated by the "Price/earnings" ratio, which is calculated as "Average market price per share of common stock/earned per share of common stock." A stock which has earned at the rate of \$4 a share for the year and has sold at an average price of \$80 a share during the year has sold at an average price of twenty times earnings. This indicates that the market has capitalized the earnings at the rate of 5 per cent. Norrestern & West Railway common stock earned at the rate of \$1.36 and sold at an average price of \$31 for this year. On this basis the stock sold at an average of 22.7 times earnings, or at a rate of capitalization of 4.4 per cent. The previous rates of capitalization were 9.8 per cent and 9.4 per cent. Turabine Electric Light Company, earning at the rate of \$2.84 a share and selling at an average price

of \$48 sold at 16.9 times earnings, or at a rate of capitalization of 5.9 per cent. The previous rates of capitalization were 5.3 per cent and 4.6 per cent. Straddlerocke Products Corporation, selling at an average price of \$33 and earning at the rate of \$5.26, represented an average price of 6.2 times earnings, or at a rate of capitalization of 16.1 per cent. The market capitalized the earnings of the company at the rate of 14.5 per cent and 11.5 per cent previously.

The rate at which the market capitalizes the earnings of a company depends upon three factors: (a) the risk involved in the security, (b) the outlook for future earnings, and (c) the trend of interest rates. Obviously, the higher the degree of risk involved in the security, the higher is the rate of capitalization; conversely, the lower the degree of risk, the lower is the rate of capitalization. By the same token, common stocks of companies with only slight possibilities of increasing profits tend to sell at high rates of capitalization, while those with good prospects of increasing the earnings tend to sell at low rates. In like manner, the rate of capitalization is usually low in periods when a low rate of return prevails and high in periods characterized by a high rate of return.

The yield on the common stock is the relation between the current annual rate of dividend and the average price. Norrestern & West Railway common stock, selling at an average price of \$31 and paying a dividend at the rate of \$2.25 sold to yield 7.2 per cent compared to 7.9 per cent last year and 7.5 per cent the previous year. At an average price of \$48 a share and a dividend rate of \$2.75, Turabine Electric Light Company common stock sold to yield 5.7 per cent this year, compared with 5.3 per cent last year, and 4.4 per cent the previous year. Straddlerocke Products Corporation common stock at an average price of \$33 and a dividend rate of \$2.20, sold to yield 6.7 per cent this year, compared with 6.4 per cent last year and 5.6 per cent the previous year.

Summary.

NORRESTERN & WEST RAILWAY

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|----------------------|----------------------|-----------------------|
| <i>Income Statement:</i> | | | |
| % Change in Operating Revenues..... | -18.1% | +6.9% | — |
| Freight Traffic Density (000)..... | 5,111 | 7,185 | 6,288 |
| Revenue per Ton-Mile (Mills)..... | 9.77 | 8.56 | 7.31 |
| Operating Ratio (%)..... | 80.1% | 75.9% | 74.4% |
| Transportation Ratio..... | 36.3% | 35.9% | 35.7% |
| Maintenance Ratio..... | 36.5% | 32.9% | 32.2% |
| Non-Operating Income/Total Income (%). | 4.8% | 4.8% | 5.3% |

ANALYSIS OF INCOME STATEMENT

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| | | | |
|--|---------|----------|----------|
| Fixed Charges: | | | |
| Times Earned..... | 2.0 | 3.4 | 5.0 |
| Fixed Charges/Operating Revenues (%).. | 4.2% | 2.8% | 2.8% |
| Preferred Stock: | | | |
| Earned per Share..... | \$57.76 | \$150.68 | \$178.93 |
| Times Pfd. Div. Req. Earned | 1.8 | 3.8 | 4.6 |
| Common Stock: | | | |
| Earned per Share. | \$1.36 | \$3.72 | \$4.44 |
| Dividend per Share..... | \$2.25 | \$3.00 | \$3.56 |
| Dividend/Earned per Share (%)..... | 165.4% | 80.6% | 80.1% |
| Average Price per Share (\$)..... | \$31 | \$38 | \$47 |
| Price/Earned (Times)..... | 22.7 | 10.2 | 10.6 |
| Rate of Capitalization (%)..... | 4.4% | 9.8% | 9.4% |
| Yield (%)..... | 7.2% | 7.9% | 7.5% |

TURABINE ELECTRIC LIGHT COMPANY

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|----------------------|----------------------|-----------------------|
| <i>Income Statement:</i> | | | |
| % Change in Operating Revenue (%)..... | -0.4% | +10.0% | — |
| Operating Ratio: (%)..... | 83.3% | 84.3% | 79.7% |
| Operating Expense Ratio. | 57.4% | 62.8% | 57.7% |
| Maintenance Ratio. | 5.2% | 4.5% | 4.8% |
| Depreciation Ratio.. . . . | 5.3% | 3.4% | 1.4% |
| Tax Ratio..... | 15.4% | 13.6% | 15.8% |
| Non-Oper. Inc./Total Income (%) | 6.9% | 10.7% | 6.2% |
| Fixed Charges: | | | |
| Times Earned.. | 6.7 | 5.8 | 4.3 |
| Fixed Charges/Oper. Rev. (%) | 2.8% | 3.0% | 4.7% |
| Preferred Stock: | | | |
| Earned per Share. | \$15.47 | — | — |
| Times Pfd. Div. Req. Earned.. | 3.9 | — | — |
| Common Stock: | | | |
| Earned per Share (\$) | \$2.84 | \$2.76 | \$2.90 |
| Dividend per Share (\$)..... | \$2.75 | \$2.75 | \$2.75 |
| Dividend/Earned per Share (%)..... | 96.8% | 99.6% | 94.8% |
| Average Price per Share (\$)..... | \$48 | \$52 | \$62 |
| Price/Earned (Times)..... | 16.9 | 18.8 | 21.4 |
| Rate of Capitalization (%) | 5.9% | 5.3% | 4.6% |
| Yield (%)..... | 5.7% | 5.3% | 4.4% |

STRADDLEROCKE PRODUCTS CORPORATION

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|----------------------|----------------------|-----------------------|
| <i>Income Statement:</i> | | | |
| % Change in Net Sales (%)..... | -9.0% | +9.9% | — |
| Operating Ratio (%)..... | 93.7% | 95.9% | 95.8% |
| Non-Operating Income/Total Income (%).. | 4.1% | 5.9% | 6.0% |
| Times Fixed Charges Earned: (Times) | | | |
| Before Federal Income Taxes..... | 26.2 | 22.8 | 28.2 |
| After Federal Income Taxes..... | 16.1 | 14.3 | 17.5 |
| Fixed Charges/Net Sales (%)..... | 0.2% | 0.2% | 0.2% |
| Net Income/Net Worth (%)..... | 17.5% | 16.4% | 16.5% |
| Net Income/Total Assets (%)..... | 10.3% | 7.9% | 8.3% |

Common Stock:

Earned per Share:

| | | | |
|------------------------------------|--------|--------|--------|
| Before Federal Income Taxes..... | \$8.78 | \$6.61 | \$6.08 |
| After Federal Income Taxes..... | \$5.26 | \$4.03 | \$3.68 |
| Dividend per Share..... | \$2.20 | \$1.80 | \$1.80 |
| Dividend/Earned per Share (%)..... | 41.8% | 44.6% | 48.9% |
| Average Price per Share (\$)..... | \$33 | \$28 | \$32 |
| Price/Earned (Times)..... | 6.2 | 6.9 | 8.7 |
| Rate of Capitalization (%)..... | 16.1% | 14.5% | 11.5% |
| Yield..... | 6.7% | 6.4% | 5.6% |

Review Questions

1. Indicate the basic considerations in the analysis of the income statement.
2. Name the factors involved in the analysis of changes in operating revenues or net sales.
3. Indicate the relation of the territory served to the traffic carried by a railroad and the factors in the analysis of the territory.
4. Indicate the factors involved in the analysis of the changes in the sources of railroad operating revenue.
5. Explain the measurement of the profitableness of railroad freight traffic.
6. Explain the relation of the territory served by a public utility company to operating revenues and the factors involved in the analysis of the territory.
7. Distinguish between wholesale and retail sales of public utility electric service.
8. Distinguish between industrial, residential, and commercial sales of public utility electric service.
9. Comment on the following sales of electrical energy:

| | <i>KWH</i> | <i>%</i> | <i>Revenue</i> | <i>%</i> |
|-----------------------------------|----------------------|-------------|----------------------|-------------|
| Residential | 1,464,486,176 | 17 | \$ 75,698,553 | 33 |
| Commercial & Industrial | | | | |
| Retail. | 1,590,363,371 | 18 | 68,276,148 | 30 |
| Wholesale | 2,411,244,006 | 28 | 53,525,684 | 24 |
| Railroads & Railways. | 1,434,919,745 | 16 | 11,969,712 | 5 |
| Public Authorities. | 1,440,669,646 | 16 | 16,272,834 | 7 |
| Other electric utilities. | 316,871,903 | 5 | 1,915,630 | 1 |
| | <u>8,658,554,847</u> | <u>100%</u> | <u>\$227,658,561</u> | <u>100%</u> |

10. Comment on the following electric sales:

| | <i>Revenue</i> | <i>KWH</i> | <i>Cents per KWH</i> |
|----------------------|---------------------|----------------------|--------------------------|
| Domestic | \$31,165,674 | 1,111,948,618 | 2.80 |
| Commercial. | 23,671,146 | 945,934,661 | 2.50 |
| Industrial | 28,346,295 | 2,310,808,657 | 1.23 |
| Others*. | 3,854,438 | 328,790,995 | 1.17 |
| | <u>\$87,037,553</u> | <u>4,697,482,931</u> | |

* Mostly municipal sales and sales for resale.

11. What is meant by gas of standard BTU content in the manufactured gas industry?
12. Indicate the basic considerations in the analysis of changes in net sales of an industrial company.

13. Explain the calculation and significance of operating ratio and the limitations to the ratio.

14. Discuss the relation of railroad transportation ratio and maintenance ratio to the operating ratio.

15. Indicate the factors in the analysis of the operating ratio of a public utility company.

16. Explain the factors in the analysis of the operating ratio of an industrial company.

17. Indicate the significance of the net operating revenue or operating profit.

18. Name the sources of non-operating income to a company.

19. Discuss the purpose of analyzing non-operating income.

20. The Northern Pacific Railway owns 830,179 shares of the stock of the Chicago, Burlington & Quincy Railroad. Indicate the significance to the former of the declaration by the latter of a dividend of \$5 a share.

21. American Telephone & Telegraph Co. owns 5,967,696 shares of the common stock of Western Electric Co. The latter declared a dividend of \$1.75 per share. How much did this dividend represent per share of American Telephone & Telegraph common stock with 20,606,999 shares of the parent company's stock outstanding?

22. Comment on the following report of General Electric Co.:

| | |
|-----------------------------|--------------------|
| Net sales. | \$679,078,216 |
| Operating expenses. | <u>679,612,440</u> |
| Operating loss. | 534,224 |
| Other income. | <u>10,823,813</u> |
| Total income | \$ 10,289,589 |

23. Distinguish between recurring and non-recurring non-operating income.

24. What is the significance of the income available for fixed charges?

25. How is the adequacy of the income available for fixed charges measured?

26. Indicate the relation between fixed charges and operating revenue or net sales.

27. Indicate the investment significance of net income.

28. Explain the significance of the ratio "Net income/net worth" in the analysis of an industrial company.

29. Discuss the relation between the ratio "Net income/net worth" and the ratio "Net income/total assets" in the analysis of an industrial company.

30. Indicate the nature of the interest of the preferred stock.

31. Explain the calculation of the amount earned per share of preferred stock.

32. Explain the calculation and significance of "Times preferred stock dividend requirement earned" on an over-all basis.

33. Indicate the nature of the interest of the common stock.

34. Indicate the method of determining the amount earned per share of common stock.

35. A corporation has outstanding 600,000 shares of 6 per cent participating preferred stock and 700,000 shares of common stock. The preferred stock is entitled to \$1.50 per share per annum, participates equally, share for share, in further distribution until it has received an additional 50 cents per share. Calculate the amount earned per share of common stock with a net income of \$2,825,680.

INVESTMENT ANALYSIS

36. Calculate the annual earnings per share of common stock in a corporation which has outstanding 3,600,000 shares of \$7 cumulative preferred stock and 8,700,000 shares of common stock on the basis of the following data:

| | <i>Net Income</i> | <i>Preferred Div. Paid</i> | <i>Preferred Arrears</i> | <i>Common Div. Paid</i> |
|------|-----------------------|--------------------------------|------------------------------|-----------------------------|
| 1943 | \$13,000,000 | \$25,200,000 | | \$37,000,000 |
| 1944 | D 71,200,000 | 20,700,000 | \$ 4,500,000 | |
| 1945 | D 36,500,000 | 7,200,000 | 22,500,000 | |
| 1946 | D 21,700,000 | 7,200,000 | 40,500,000 | |
| 1947 | 1,100,000 | 7,200,000 | 58,500,000 | |
| 1948 | 50,500,000 | 50,400,000 | 33,300,000 | |
| 1949 | 94,900,000 | 58,500,000 | | 8,700,000 |

37. Indicate the effect of stock dividends on the reported earnings per share of common stock from the following data:

| | <i>Net Income</i> | <i>Common Shares Outstanding</i> | <i>Earned per Share</i> | <i>Dividend \$</i> | <i>Dividend Stock</i> |
|------|-----------------------|--------------------------------------|-----------------------------|------------------------|---------------------------|
| 1947 | \$38,250,000 | 7,500,000 | \$5.10 | 2 | 5% |
| 1948 | 47,250,000 | 7,875,000 | 6.00 | 3 | 5% |
| 1949 | 62,015,625 | 8,268,750 | 7.50 | 5 | — |

38. Compute the earnings per share of common stock of a company whose capitalization consists only of 28,845,927 shares of common stock and which reported net income as follows:

| | |
|---|--------------|
| Operating loss | \$ 534,224 |
| Other income | 10,823,813 |
| Total income | 10,289,589 |
| Adjustments: | |
| Federal tax provision—Dr. | 250,000 |
| | 10,039,589 |
| Prior years' tax credit | 24,000,000 |
| Transfer from reserve for postwar adjustments and contingencies | 9,000,000 |
| Net income | \$43,039,589 |

39. What determines the dividend rate on the common stock?

40. P. Lorillard Company reported \$19,236,360 earned surplus on December 31, 1945. How much of this surplus was available for distribution as cash dividends on the common stock?

41. Cudahy Packing Co. reported earned surplus of \$13,124,985 for the year ended November 2, 1946. Was this amount available for cash dividends on the common stock?

42. Explain the significance of the relation of the amount of dividend paid to the amount earned per share of common stock.

43. Discuss the significance of the "Price/earnings" ratio.

Assignment

(a) Compare the operating ratio, transportation ratio, and maintenance ratio of a railroad from the following data:

| | <i>This Year</i> | <i>Last Year</i> |
|---------------------------------------|------------------|------------------|
| Operating Revenue | \$979,773,000 | \$875,354,000 |
| Operating Expenses: | | |
| Maintenance—Way & Structure | 108,488,000 | 92,830,000 |
| Maintenance—Equipment | 163,611,000 | 152,518,000 |

| | | |
|---|----------------------|----------------------|
| Traffic | 11,493,000 | 10,544,000 |
| Transportation | 348,985,000 | 302,181,000 |
| Misc. & General | 30,934,000 | 24,417,000 |
| Net Operating Revenue | <u>316,262,000</u> | <u>292,864,000</u> |
| Taxes | <u>180,405,000</u> | <u>129,147,000</u> |
| Railway Operating Income | <u>135,857,000</u> | <u>163,717,000</u> |
| Hire of Equipment & Joint Rents—Dr. | <u>8,311,000</u> | <u>16,798,000</u> |
| Net Railway Operating Income | <u>\$127,546,000</u> | <u>\$146,919,000</u> |

- (b) Analyze the operating ratio from the following data of a public utility company:

| | <i>This Year</i> | <i>Last Year</i> |
|---------------------------------|------------------|------------------|
| Operating Revenue | \$180,858,000 | \$172,439,000 |
| Operating Expenses | 72,864,000 | 66,789,000 |
| Maintenance Expenses | 9,353,000 | 8,685,000 |
| Depreciation Expenses | 22,906,000 | 20,778,000 |
| Taxes | 40,927,000 | 42,057,000 |

- (c) Compute the number of times fixed charges were earned before and after taxes from the following data:

| | |
|---------------------------------------|---------------|
| Net Sales | \$760,491,000 |
| Available for Fixed Charges | 105,881,000 |
| Fixed Charges | 7,604,000 |
| Provision for Federal Taxes | 81,996,000 |

- (d) On the basis of the following data, compute the number of times interest charges were earned on each bond, the 4s of 1960 being senior to the 3s of 1965:

| | |
|---------------------------------------|--------------|
| Available for Fixed Charges | \$19,278,532 |
| Interest Charges: | |
| 4s, 1960 | 7,290,745 |
| 3s, 1965 | 5,468,059 |

- (e) Determine for each year: (1) amount earned per share of preferred and of common stock; (2) times preferred stock dividend requirement earned; (3) cash dividend paid per share on the preferred stock and on the common stock, from the following data:

| | <i>This Year</i> | <i>Last Year</i> |
|---------------------------------------|------------------|------------------|
| Available for Fixed Charges | \$9,731,046 | \$15,162,918 |
| Fixed Charges | \$ 261,115 | \$ 226,442 |
| Net Income | \$9,469,931 | \$14,936,476 |
| Preferred Stock: | | |
| No. of Shares | 1,543,000 | 1,543,000 |
| Par Value | \$20 | \$20 |
| Dividend Rate | 7% | 7% |
| Cash Dividend Paid | \$2,160,200 | \$5,786,250 |
| Common Stock: | | |
| No. of Shares | 3,004,362 | 3,004,362 |
| Par value | None | None |
| Cash Dividend Paid | \$4,055,889 | \$2,002,908 |

- (f) A company reported that the dividend requirement on the senior debenture stock was earned 7.7 times and on the junior preferred stock 19.4 times. In view of the following facts was this statement true?

| | |
|-------------------------|--------------|
| Net Income | \$50,190,827 |
| Debenture Stock: | |
| No. of Shares | 1,092,948 |
| Par Value | \$100 |
| Dividend Rate | 6% |

INVESTMENT ANALYSIS

Preferred Stock:

| | |
|------------------------|---------|
| No. of Shares..... | 500,000 |
| Par Value | None |
| Dividend Rate. | \$4.50 |

- (g) On the basis of the following data, compute the amount earned per share of preferred and common stock:

| | |
|--------------------------------|------------|
| Net Income (deficit) | \$542,770 |
| Preferred Stock: | |
| No. of Shares... | 47,864 |
| Par Value. | \$100 |
| Dividend Rate. | 7% |
| Common Stock: | |
| No. of Shares | 10,000,000 |

- (h) Adjust the following reported earnings per share to reflect the effects of stock dividends:

| | <i>Net Income</i> | | <i>No. of Shares Outstanding</i> |
|------------------------|-------------------|------------------|--------------------------------------|
| | <i>Total</i> | <i>Per Share</i> | |
| Two years ago. | \$9,092,692 | \$10.63 | 855,408 |
| Last year | 9,431,013 | 10.50 | 898,178 |
| This year. | 9,844,633 | 10.44 | 943,028 |

CHAPTER TWENTY-ONE

BANK STATEMENTS

Introduction. Commercial banks are organized under federal or state charters and are known as national or state banks, respectively. National banks are subject to uniform supervision by national bank examiners; state banks are subject to varying methods of supervision by state authorities. Membership in the Federal Reserve System is mandatory for national banks but optional for state banks.

Sources of earnings. Commercial banks obtain their earnings from many sources: interest on loans; income from investments; commissions, fees, and charges for bank services; trust department activities; and miscellaneous sources.

VISTA NATIONAL BANK

December 31, This Year

Assets

| | | |
|---|-----------------|-----------------|
| Cash and Due from Banks..... | | \$1,280,491,136 |
| U. S. Government Obligations..... | | 1,819,414,477 |
| State and Municipal Securities..... | | 109,677,778 |
| Other Securities..... | | 127,537,704 |
| Mortgages..... | | 28,945,704 |
| Loans..... | \$1,379,630,836 | |
| Less: Reserve for Bad Debts and Unallocated Reserve..... | 29,123,710 | 1,350,507,126 |
| Accrued Interest Receivable..... | | 10,658,859 |
| Customers' Acceptance Liability..... | | 20,011,775 |
| Banking Houses..... | | 29,593,355 |
| Other Assets..... | | 2,851,906 |
| Total Assets..... | | \$4,779,689,820 |

Liabilities

| | | |
|------------------------|---------------|----------------|
| Capital Funds: | | |
| Capital Stock..... | \$111,000,000 | |
| Surplus | 189,000,000 | |
| Undivided Profits..... | 45,388,274 | \$ 345,388,274 |
| Deposits..... | | 4,384,572,391 |

| | | |
|----------------------------------|------------------|-------------------|
| Dividends Payable..... | | 2,960,000 |
| Reserves—Taxes and Expenses..... | | 13,840,657 |
| Other Liabilities..... | | 11,182,844 |
| Acceptances Outstanding..... | \$23,621,032 | |
| Less: In Portfolio..... | <u>1,875,378</u> | <u>21,745,654</u> |
| Total Liabilities..... | | \$4,779,689,820 |

Liabilities. The accounts appearing on the liability side of the balance sheet of a commercial bank are capital funds, deposits, letters of credit and acceptances, federal funds borrowed, foreign funds borrowed, liability as endorser on acceptances and foreign bills, and miscellaneous accounts.

Capital funds. Capital funds represent the investment of the stockholders and consist of capital stock, surplus, and undivided profits. For example, Vista National Bank reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------|----------------------|----------------------|----------------------|
| Capital Stock..... | \$111,000,000 | \$111,000,000 | \$111,000,000 |
| Surplus | 189,000,000 | 154,000,000 | 154,000,000 |
| Undivided Profits..... | <u>45,388,274</u> | <u>62,763,580</u> | <u>57,024,776</u> |
| Total Capital Funds..... | <u>\$345,388,274</u> | <u>\$327,763,580</u> | <u>\$322,024,776</u> |

Capital stock is the permanent investment and represents the total par value of the outstanding stock. The capital stock of Vista National Bank consisted of 7,400,000 shares with a par value of \$15 a share. Surplus represents the paid-in surplus and the surplus earnings which have been allowed to remain in the bank on a relatively permanent basis as an additional factor of safety to depositors. Undivided profits represent the surplus earnings available for the payment of dividends and for the absorption of unusual losses.

Surplus and undivided profits are closely related. Profits first appear in the undivided profits account, which is regarded by the stockholders as distributable as dividends. The management, however, may wish to reduce the amount available for dividends and to increase the surplus, which is regarded as permanent capital. This is accomplished by a transfer from undivided profits to surplus. For example, the Chase National Bank transferred \$34,460,000 from undivided profits to surplus, reducing undivided profits and increasing surplus to \$134,730,000. On the other hand, the management may transfer surplus to undivided profits in order to meet unusual losses. Investors in bank stocks are always interested in the year-end adjustments of surplus, undivided profits, reserves and, in some instances, capital. Such developments are

important in that they reflect the progress a bank is making both from an earnings standpoint and from a recovery viewpoint.

Deposits. Deposits constitute the largest account on the liability side, averaging approximately 99 per cent of total liabilities (excluding capital funds) for all commercial banks in recent years. In the instance of Vista National Bank, for example, deposits of \$4,384,572,391 represented approximately 99 per cent of total liabilities. Deposits consist of individual demand and time deposits, federal and municipal government deposits, and amounts due to banks and bankers. Demand deposits are payable on demand or after less than 30 days' notice. They are usually subject to check and do not bear interest. Demand deposits average about 75 per cent of total deposits.

Time deposits, on the other hand, are not subject to check, are of the "savings" type, and usually carry interest. The Board of Governors of the Federal Reserve System, under provisions of Regulation Q, has established a schedule of maximum rates of interest that may be paid on time deposits by member banks. Under federal law the rate payable by a national bank may not in any event exceed the maximum rate payable by state banks or trust companies on like deposits under the laws of the state in which the national bank is located. The schedule established by the Federal Reserve System has also been adopted by the Federal Deposit Insurance Corporation for insured non-member banks.

Amounts due to banks and bankers represent balances of other banks maintained by them either for investment in the money market, for clearance and collection, as compensation for services rendered, or as depository for a portion of legal reserves. The Irving Trust Company in a recent year, for example, had 42,400 depositors with total deposits of \$1,141,041,213. Approximately 23 per cent of the total deposits were for the account of banks; 63 per cent were for corporations; and 14 per cent were for individual depositors.

Letter of credit. A letter of credit is an authorization permitting the creditor of the bank's customer to draw a draft on the bank under certain conditions. For example, a New York bank may issue a letter of credit to a customer covering the importation of goods from Brazil under which the Brazilian exporter is authorized to draw a 90-day draft on the New York bank. The letter of credit is issued by the New York bank with the understanding that the

New York importer will provide the funds for payment before the draft matures. The Brazilian exporter, at the same time, is assured of the acceptance and final payment of his draft. The New York bank creates a "banker's acceptance" by accepting the draft. The acceptance of the draft by the New York bank results in the assumption by it of a liability for the customer, and the transaction is recorded as a liability on the bank's books. It is counterbalanced by an asset showing the equal liability of the customer to the bank.¹ Sometimes the accepting bank may purchase its own acceptances before maturity. For example, Vista National Bank had purchased \$1,875,378 of its \$23,621,032 of acceptances.

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|------------------------------|------------------|------------------|-------------------|
| Acceptances Outstanding..... | \$23,621,032 | \$26,404,488 | \$20,347,255 |
| Less: In Portfolio..... | 1,875,378 | 2,927,710 | 4,963,529 |
| Net..... | \$21,745,654 | \$23,476,778 | \$15,383,726 |

A letter of credit may be sold by the bank for cash and, as a result, the bank becomes liable for the amount involved. It is quite similar in effect to a certificate of deposit and is considered as an ordinary liability.²

Federal funds. Federal funds purchased represent sight claims on the Reserve banks or the United States Treasury purchased by the member bank when its legal reserve with the Federal Reserve bank is deficient. The member bank with the deficient reserve exchanges its own cashier's check for a check drawn on the Federal Reserve bank by another member bank having excess reserve. The borrowing bank increases its reserve balance at the Federal Reserve bank by depositing the check of the lending bank. In practice, the borrowing of Federal funds may be effected by the lending bank instructing the Federal Reserve bank to debit its account for the amount of the loan and to credit the account of the borrowing bank.

Endorsed acceptances. When a bank sells acceptances with an endorsement, it creates a contingent liability which is recorded as a liability offsetting the sold acceptance, which appears as an asset. At the maturity of the acceptances or bills, however, both the contingent asset and the contingent liability disappear from the balance sheet.

¹ An excess of the liability item over the asset item indicates that customers have anticipated payment and have liquidated the liability.

² A person wishing to make a deposit to facilitate a remittance by mail but not wishing to open an account may purchase a certificate of deposit.

Miscellaneous liabilities. The miscellaneous liabilities include dividends payable, items in transit, accounts payable, and reserves. Vista National Bank reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------------|------------------|------------------|-------------------|
| Dividends Payable..... | \$ 2,960,000 | \$ 2,960,000 | \$ 2,960,000 |
| Reserves—Taxes and Expenses.. | 13,840,657 | 10,869,979 | 9,703,411 |
| Reserve for Contingencies | nil | 19,868,923 | 17,766,359 |
| Other Liabilities | 11,182,844 | 9,532,215 | 11,051,699 |

Banks establish reserves for taxes, for interest, and for various contingencies. Reserves for taxes and interest represent taxes and interest not yet due but accrued to date of the balance sheet. Reserve for contingencies seeks to relieve undivided profits of any special losses that may be incurred. This reserve usually is established out of non-recurring income, such as profits from the sale or redemption of bonds. With the adoption of the reserve method of accounting for bad debts, Vista National Bank discontinued the "Reserve for Contingencies," amounting to \$19,868,923 last year, by transferring \$10,000,000 to undivided profits, \$6,000,000 to unallocated reserve, \$2,500,000 to reserve for taxes and other expenses, and the balance to the revaluation of certain assets.

Assets. The asset side of the balance sheet indicates the forms of employment in which the bank has placed its funds. The assets consist of cash, securities, loans, and discounts, real estate bonds and mortgages, real estate, and miscellaneous assets.

Cash. Cash includes cash on hand, cash in the Federal Reserve bank, and cash due from banks and bankers. Cash in the Federal Reserve bank refers to the aggregate of the reserve which the bank is required to maintain with the Federal Reserve bank of its district and any balance in excess of the reserve requirement. The minimum amount of reserve is determined by the classification of the bank as a central reserve city, reserve city, or country bank, and the character of deposits as net demand or as time deposits. Net demand deposits subject to the reserve requirement consist of demand deposits other than war loan deposits, less cash items in process of collection and demand balances due from domestic banks. The minimum amount of reserve is determined by the Federal Reserve Board and has been changed by the Board from time to time. Basically, the required reserve represents the amount of deposits which the member bank may not lend or invest. Changes in the reserve requirements, therefore, affect the funds of the bank available for lending and investment and, hence, its earning power. An

increase in the reserve requirement reduces the funds available and consequently the earning power, while a decrease in the reserve requirement increases the funds available and the possible earning power. Cash due from banks and bankers represents balances with other banks maintained to facilitate collection of notes and checks or the drawing of drafts, or for investment in call loans. Vista National Bank reported "cash and due from banks" as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------|------------------|------------------|-------------------|
| Cash and Due from Banks.... | \$1,280,491,136 | \$1,415,325,554 | \$1,225,791,684 |

The decline of \$134,834,418 this year was a reflection in part of the reductions in legal reserve requirements authorized by the Federal Reserve Board during this year, whereas the increase of \$189,533,-870 last year arose in part because of an increase in the reserve requirements during last year.

Security investments. Security investments include United States Government obligations, state and municipal bonds, bonds and notes of railroad and public utility companies, and stock in the Federal Reserve bank. United States Government obligations are shown at amortized cost and other investments at book or market, whichever is lower.³ Vista National Bank, for example, reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------------------------|------------------|------------------|-------------------|
| U. S. Government Obligations.. | \$1,819,414,477 | \$1,482,077,657 | \$1,997,223,843 |
| State and Municipal Securities.. | 109,677,778 | 29,644,484 | 72,143,547 |
| Other Securities..... | 127,537,704 | 128,402,314 | 167,247,385 |
| Total..... | \$2,056,629,959 | \$1,640,124,455 | \$2,236,614,775 |

Vista National Bank's investment in United States Government obligations included both short and long-term securities. The investment in state and municipal securities enabled the bank to diversify its investments. The item of "Other Securities" consisted of the following (in thousands):

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Federal Land Bank Bonds, etc..... | nil | \$ 14,793 | \$ 26,445 |
| Municipal Revenue Bonds..... | \$ 17,537 | 3,046 | 9,339 |
| Foreign Bonds..... | 34,215 | 46,238 | 51,668 |
| Railroad Equipment Trust Certificates... | 32,290 | 32,849 | 43,511 |
| Railroad Bonds..... | 3,665 | 5,110 | 5,478 |
| Public Utility Bonds..... | 7,911 | 6,914 | 6,839 |
| Industrial and Miscellaneous Obligations.. | 15,387 | 3,331 | 7,786 |
| Shares of Stock (in affiliate banks)..... | 7,533 | 8,171 | 8,231 |
| Stock of Federal Reserve Bank..... | 9,000 | 7,950 | 7,950 |
| | <u>\$127,538</u> | <u>\$128,402</u> | <u>\$167,247</u> |

³ Convention values may be used for all except stocks and defaulted obligations.

In accordance with standard practice and regulations of national bank supervisory agencies, the premiums on securities purchased above par are amortized so that such premiums will have been reduced to the callable price by the optional call date or to par by the final maturity date. For balance sheet purposes, United States Government securities are shown at amortized cost, other readily marketable securities at not more than the lower of amortized cost or market, and other securities at not more than the lower of cost or fair valuation.

Federal Reserve bank stock. All banks entering the Federal Reserve System are required to subscribe to the capital stock of the Federal Reserve bank of the district. The required subscription is 6 per cent of the member bank's capital and surplus, of which one half is paid at once and the balance is subject to call by the directors of the Federal Reserve bank. The member bank is entitled to a cumulative dividend of 6 per cent on its paid subscription. The subscription to the stock must be increased or decreased with changes in capital and surplus. For example, Vista National Bank, with capital and surplus this year of \$300,000,000, had a subscription requirement of \$18,000,000 of which one-half or \$9,000,000 was paid on its subscription. Its paid subscriptions of \$7,950,000 last year and the previous year were based upon its aggregate capital and surplus of \$265,000,000.

Loans and discounts. Loans and discounts refer to loans made to customers for a relatively short period, usually maturing in less than one year. Loans are usually classified as commercial loans, loans on securities, and other loans. These loans and discounts consist of single-name and two-name paper, collateral loans, and loans on real estate. Single-name paper is a promissory note signed by the borrower and is based on his personal credit. It may be unsecured or secured by collateral. Two-name paper represents notes or drafts received by the borrower from his customers and discounted by the bank. Such paper may be secured by evidence of title to merchandise, such as a warehouse receipt. Most of the collateral loans arise out of the financing of security transactions. Loans and discounts are shown after deduction of allocated reserves to cover estimated probable losses. Loans on real estate represent loans secured by liens on improved property made in accordance with the law limiting such loans. An important loan classification which has developed in recent years is the term loan, which is repayable in installments over a period of five years or

less and, in some instances, ten years. Term loans have been made for such purposes as the purchase of equipment or other capital assets or for the retirement of bonds and preferred stocks. The nature of a bank's maturity distribution of the loan portfolio was illustrated by the following distribution of the Irving Trust Company in a recent year:

| | |
|--------------------------------------|-------------|
| On demand and due within 1 year..... | 78% |
| Due in 1 to 2 years | 6 |
| Due in 2 to 5 years .. | 12 |
| Due in more than 5 years. | 4 |
| | <u>100%</u> |

Vista National Bank reported loans as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------------|------------------------|------------------------|
| Loans..... | \$1,379,630,836 | \$1,502,260,368 | \$1,324,264,034 |
| Less: Reserve for Bad Debts and Unallocated Reserve.... | 29,123,710 | 19,426,074 | nil |
| Net Loans..... | <u>\$1,350,507,126</u> | <u>\$1,482,834,294</u> | <u>\$1,324,264,034</u> |

A ruling by the Commissioner of Internal Revenue has provided a formula for determining allowable deductions from taxable income for the setting up and maintaining of reserves for bad debt losses on loans. The formula is based on a twenty-year moving average experience of net bad debt losses. The average is "moving" in the sense that every year the loan total for the end of the year replaces the loan total for the earliest year which is dropped. The ruling places a ceiling on the reserve of an amount equivalent to three times the average loan-loss experience ratio of the preceding twenty years applied to year-end loan totals. The annual amount charged to the reserve varies, however, because (a) the moving average changes and (b) once the reserve is built up to the limit allowed, the total is affected by actual losses which are to be charged against the bad debt reserve and by the amounts credited through recoveries. The advantage to the banks of this ruling is an immediate and definite tax saving since tax deductions are taken at the time transfers are made to the reserve instead of when losses are realized as was the practice prior to the ruling.

Loans and discounts as a source of earnings are influenced in large part by the type of loan the bank makes. Among New York City banks, for example, Chemical National Bank is known to be particularly active in the South, where interest rates are usually relatively high. Public National Bank is very strong in the textile and garment trade. Manufacturers Trust Company, because of its many branches and its policy of starting to know its customers

early, has a very large number of small and medium-size but high interest-bearing loans. First National Bank, on the other hand, with its single office and its contacts largely with great corporations, is primarily a wholesaler of money at low interest rates.

Mortgage loans. National banks are permitted to make mortgage loans not to exceed, in the aggregate, the total of unimpaired capital and surplus or 60 per cent of their time and savings deposits, whichever is greater. These mortgages usually arise from building construction loans and are of short duration. They consist of first mortgages fully insured as to principal and interest by the Federal Housing Administration or first mortgages not exceeding 60 per cent of the appraised value of the property. Banks also acquire real estate mortgages when given in good faith to protect debts previously contracted on an unsecured or otherwise secured basis. Vista National Bank, for example, reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------|------------------|------------------|-------------------|
| Mortgages..... | \$28,945,704 | \$28,772,864 | \$11,692,931 |

Real estate. Real estate holdings of a bank are restricted to bank buildings and real estate acquired in foreclosure of mortgages or loans. Vista National Bank reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------|------------------|------------------|-------------------|
| Banking Houses..... | \$29,593,355 | \$30,232,189 | \$31,101,355 |

Miscellaneous assets. The miscellaneous assets reported by a bank include credits granted on acceptance and accrued interest and accounts receivable. A credit granted on acceptance arises when the bank accepts on behalf of a customer a time draft drawn on the bank. The customer's liability to reimburse the bank at maturity of the draft is the bank's asset. Accrued interest receivable represents interest accrued but not yet due on securities and loans in good standing. Vista National Bank reported:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------------|------------------|------------------|-------------------|
| Accrued Interest Receivable..... | \$10,658,859 | \$ 9,198,644 | \$ 9,400,461 |
| Customers' Acceptance Liability..... | 20,011,775 | 21,345,532 | 13,491,128 |
| Other Assets..... | 2,851,906 | 3,638,049 | 4,096,053 |

Analysis of deposits. Analysis of the deposits is one criterion of a bank's success. Deposits may be classed as primary or secondary. A primary deposit refers to the deposit of cash, checks, or similar items by the depositor. A secondary deposit represents the proceeds of a loan or a discount which is credited to the borrower's deposit account. If a customer borrows \$1,500,000 for 90 days at

5 per cent and leaves the proceeds with the bank as a demand deposit, the asset account "Loans and Discounts" is increased by \$1,500,000. The liability account "Deposits" is also increased, but the extent of the increase depends upon whether the \$1,500,000 borrowed was in the form of a loan or a discount. If in the form of a loan, the borrower receives \$1,500,000 and at the end of 90 days will repay \$1,518,750 (\$1,500,000 principal and \$18,750 interest). At the time of the loan, demand deposits of the bank are increased by \$1,500,000. If, on the other hand, the transaction is in the form of a discount, the borrower receives \$1,481,250 (\$1,500,000 less \$18,750 discount) and at the end of 90 days will repay \$1,500,000. At the time of the discount, demand deposits of the bank are increased by \$1,481,250 and unearned discount by \$18,750.

Analysis of deposits involves consideration of the growth in deposits, the relation of deposits to capital funds, and the manner in which deposits have been employed.

Growth in deposits. The change in the deposits of Vista National Bank is evidenced by the following:

| | <i>Deposits</i> | <i>Percentage Change</i> |
|-------------------------|-----------------|--------------------------|
| Previous Year | \$4,477,562,450 | -0.4% |
| Last Year | 4,237,000,106 | -5.3 |
| This Year | 4,384,572,391 | +3.4 |

The downward trend in deposits during the past two years was reversed this year with an increase of 3.4 per cent over last year. Total deposits this year, however, represented a decrease of 2.0 per cent over two years ago.

Deposits/capital funds. The relation of deposits to capital funds is important to the depositor as a margin of safety and to the stockholder as a source of dividends. Many states have sought to protect the position of the depositor by limiting the deposits that a bank may accept to a definite ratio to capital funds. The generally accepted standard has been a maximum of ten times capital funds. The reasoning underlying such limitation is that inasmuch as deposits are almost entirely invested in loans and securities, a loss of over 10 per cent in those earnings assets, when deposits are ten times capital funds, would wipe out the margin of protection to the depositors. Assume the following:

| | | | |
|-----------------------------|----------------------|-----------------------------|----------------------|
| Loans & Discounts | \$400,000,000 | Capital Funds | \$ 50,000,000 |
| Investments | 100,000,000 | Deposits | 500,000,000 |
| Other Assets | 60,000,000 | Other Liabilities | 10,000,000 |
| | <u>\$560,000,000</u> | | <u>\$560,000,000</u> |

In this instance, deposits are ten times capital funds and aggregate loans and discounts and investments equal deposits. If the loans and discounts and investments declined 10 per cent (\$50,000,000), the margin of safety represented by the stockholders' equity (capital funds) would be completely eliminated:

| | | | |
|------------------------|----------------------|------------------------|----------------------|
| Loans & Discounts..... | \$360,000,000 | Capital Funds..... | nil |
| Investments..... | 90,000,000 | Deposits..... | \$500,000,000 |
| Other Assets..... | 60,000,000 | Other Liabilities..... | 10,000,000 |
| | <u>\$510,000,000</u> | | <u>\$510,000,000</u> |

The relation of deposits to capital funds is important also to the stockholder. Deposits represent the loanable funds available for loans and discounts and for investments upon which the bank earns income. If deposits are much less than ten times capital funds, the ability of the bank to report satisfactory earnings may be reduced. The relation of deposits to capital funds in a bank balance sheet is comparable to the "Total debt/net worth" ratio used in industrial balance sheet analysis. In the analysis of a bank balance sheet, however, deposits are used to the exclusion of other liabilities as representing total debt because of the overwhelming importance of deposits.

In a recent year Irving Trust Company reported deposits of \$1,052,448,028 and capital funds of \$118,005,689 or a ratio of deposits to capital funds of 8.9 to 1. On the other hand, Vista National Bank reported deposits of \$4,384,572,391 and capital funds of \$345,388,274, a ratio of deposits 12.7 times capital funds. This compared with a ratio of 12.9 times last year and 13.9 times the previous year. This year the bank transferred \$35,000,000 from undivided profits to surplus which was thereby increased from \$154,000,000 to \$189,000,000 and at the same time transferred \$10,000,000 from the reserve for contingencies to undivided profits. The net effect of these transfers was to increase capital funds by \$10,000,000 and to increase the more permanent section of the capital funds (surplus) by \$35,000,000.

Earning assets/deposits. Inasmuch as the deposits are employed primarily in earning assets (loans and discounts and investments), analysis of the distribution of the deposits among the earning assets is important. Normally, banks employ deposits chiefly in loans and discounts, since that form of employment is usually the more profitable. In recent years, however, this normal distribution has been reversed because of the peculiar conditions with which the banks have been faced.

Vista National Bank reported loans on the one hand and investments on the other as follows:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-------------------|------------------|------------------|-------------------|
| Loans..... | \$1,379,630,836 | \$1,502,260,368 | \$1,324,264,034 |
| Investments*..... | 2,047,629,959 | 1,632,174,453 | 2,228,664,775 |

* Total investments less stock of Federal Reserve Bank.

In each year the chief form of earning asset was investments. When related to deposits these two earning assets represented the following percentages:

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------|------------------|------------------|-------------------|
| Loans.... | 31.4% | 35.4% | 29.6% |
| Investments | 46.7% | 38.5% | 49.7% |

Relative to deposits this year, the percentage in loans decreased while the percentage in investments increased.

The investor also is interested in the character of the bank's security investments especially from the standpoint of maturity. Investments of near-maturity provide a high degree of liquidity but a relatively low return, whereas long-term investments are usually less liquid but more productive of income. Vista National Bank's investment in United States Government obligations had an average life to the optional call dates of 1 year and 8 months this year compared to 1 year and 11 months last year, and 2 years and 4 months the previous year. The average life to maturity was 2 years and 11 months this year compared to 3 years and 10 months last year, and 3 years and 11 months the previous year. At the same time, the percentage of these obligations redeemable or maturing within one year was 50 per cent this year, compared to 41 per cent last year and 30 per cent the previous year. In other words, the liquidity of the portfolio was increased by (a) a shortening of the average life to the optional call dates or to maturity and (b) an increase in the percentage of the portfolio redeemable or maturing within one year.

Another factor of importance to the investor is the relation of cash to deposits. A bank's major non-earning asset is cash which consists principally of the balance which the bank is required by law to keep with the Federal Reserve bank of its district. Vista National Bank this year reported cash of \$1,280,491,136 or 29.1 per cent of deposits, compared to 33.3 per cent last year and 27.3 per cent the previous year. The decreased percentage of cash to deposits and loans to deposits was reflected primarily in the increased percentage of investments to deposits.

Book value. The book value of a share of common stock is more significant in bank stock analysis than in other fields primarily because of the high proportion of liquid assets represented in the balance sheet. The book value per share is calculated by dividing the capital funds or stockholders' equity by the number of shares of common stock outstanding. For example, Vista National Bank reported capital funds of \$345,388,274 or \$46.67 per share of stock, for the 7,400,000 shares outstanding. This compared with \$44.29 last year and \$43.52 the previous year. The book value per share increased in each of the last two years.

Income statement. All banks are required to submit to the supervising authorities detailed balance sheets and income statements, but the report to the stockholders has not always been so complete. The report to the stockholders always contains the balance sheet, but it is not always supplemented by income and expense items. In recent years, however, many banks have adopted the policy of including an income statement.

The income statement may be analyzed from the standpoint of

VISTA NATIONAL BANK

Income Statement (000)

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|----------------------|----------------------|-----------------------|
| Operating Earnings: | | | |
| Interest on Loans.... | \$32,441 | \$32,780 | \$22,923 |
| Interest on U. S. Gov't Securities | 21,114 | 21,113 | 23,884 |
| Interest and Dividends on Other Securities. | 3,810 | 3,630 | 4,739 |
| Total Interest and Dividends. . . | \$57,365 | \$57,523 | \$51,546 |
| Commissions, Fees, etc. | 11,201 | 11,003 | 12,477 |
| Total..... | \$68,566 | \$68,526 | \$64,023 |
| Operating Expenses: | | | |
| Salaries..... | \$24,356 | \$23,386 | \$22,604 |
| F.D.I.C. Assessment | 2,976 | 3,100 | 3,075 |
| Other Operating Expenses..... | 11,901 | 12,809 | 12,774 |
| Total..... | \$39,233 | \$39,295 | \$38,453 |
| Net Operating Earnings. | \$29,333 | \$29,231 | \$25,570 |
| Net Profit or Less on Securities | 1,981 | Dr. 1,452 | 1,256 |
| Net Earnings and Profits before Reserves.. | \$31,314 | \$27,779 | \$26,826 |
| Less: | | | |
| Reserved for Federal and State Income Taxes..... | \$ 8,850 | \$ 7,200 | \$ 7,000 |
| Addition to Reserve for Bad Debts.. | 3,000 | 3,000 | nil |
| | \$11,850 | \$10,200 | \$ 7,000 |
| Net Earnings and Profits | \$19,464 | \$17,579 | \$19,826 |

Reconcilement of Surplus and Undivided Profits

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|----------------------|----------------------|-----------------------|
| Surplus and Undivided Profits at beginning of year | \$216,746 | \$211,025 | \$202,501 |
| Net Earnings and Profits for Year | 19,464 | 17,579 | 19,826 |
| Transfer from Reserve for Contingencies . . | 10,000 | nil | nil |
| Refund on Real Estate Taxes paid in prior years | nil | nil | 538 |
| | <u>\$246,228</u> | <u>\$228,604</u> | <u>\$222,865</u> |
| Less: Dividends Paid | <u>11,840</u> | <u>11,840</u> | <u>11,840</u> |
| Surplus and Undivided Profits at end of year | \$234,388 | \$216,764 | \$211,025 |

(a) earnings per share, (b) sources of earnings, and (c) net operating earnings.

Earned per share. Vista National Bank this year had net earnings of \$19,464,000 which, on the basis of 7,400,000 shares outstanding, was at the rate of \$2.63 a share. This compared with \$2.37 a share last year and \$2.68 a share the previous year. Although the amount earned per share this year was slightly less than the rate for the previous year, nevertheless it exceeded the rate for last year by \$0.26.

Sources of earnings. Analysis of the sources of earnings in terms of a share revealed that of the \$2.63 earned this year, \$3.96 was from net operating earnings and \$0.27 was from net profit on securi-

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Net Operating Earnings | \$3.96 | \$3.95 | \$3.46 |
| Net Profit or Loss on Securities | .27 | Dr. .20 | .17 |
| | <u>4.23</u> | <u>3.75</u> | <u>3.63</u> |
| Less: Reserves | 1.60 | 1.38 | .95 |
| Net Earnings | <u>\$2.63</u> | <u>\$2.37</u> | <u>\$2.68</u> |

ties, while the provision for reserves was \$1.60. Net operating earnings was the primary source of earnings and provided substantially more this year and last year than in the previous year. The contribution of security profits was small in each year and, in fact, was a loss last year. The net loss on securities last year, however, resulted primarily from the sale of long-term bonds, principally municipal obligations which the bank had bought during preceding years in the course of its business as an underwriter and dealer in those securities. The loss reflected the upward turn in money rates during the year. The provision for reserves for taxes and bad debts increased each year and amounted to \$1.60 this year.

Analysis of the sources of net operating earnings indicates that interest on loans was the basic source providing 47.3 per cent of

the total compared with 36.4 per cent in security income and 16.3 per cent from commissions and fees. The increased importance of interest on loans was evidenced by the fact that the relative percentage rose from 35.8 per cent the previous year to approximately 47 per cent last year and this year. Security income, on the other hand, decreased in importance declining from 44.7 per cent the

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Operating Earnings: | | | |
| Interest on Loans..... | 47.3% | 47.8% | 35.8% |
| Interest on U. S. Gov't Securities..... | 30.8 | 30.8 | 37.3 |
| Interest and Dividends on Other Securities | 5.6 | 5.4 | 7.4 |
| Commissions, Fees, etc..... | 16.3 | 16.0 | 19.5 |
| Total..... | 100.0% | 100.0% | 100.0% |

previous year to 36.2 per cent last year and 36.4 per cent this year. Similarly the relative importance of commissions and fees declined from 19.5 per cent the previous year to 16.0 per cent last year and 16.3 per cent this year.

The loans this year (\$1,379,630,836) amounted to \$122,629,532 less than last year (\$1,502,260,368), yet the interest income on loans was substantially the same as last year. This was due in large part to the fact that the average rate of interest on loans was 2.34 per cent compared with 2.19 per cent last year and 1.97 per cent the previous year.

AVERAGE RATE OF RETURN

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|-----------------------------|------------------|------------------|-------------------|
| Loans | 2.34% | 2.19% | 1.97% |
| U. S. Gov't Securities..... | 1.27 | 1.24 | 1.14 |
| Loans and Investments | 1.77 | 1.69 | 1.47 |

Although the interest income on United States Government securities this year (\$21,114,000) and last year (\$21,113,000) was substantially the same, it represented a decline of approximately \$2,800,000 from this source in the previous year (\$23,884,000). The smaller total investment in these securities compared with that of the previous year was offset in part by the rise in the average rate of return from 1.14 per cent to approximately 1.25 per cent.

The total operating earnings were relatively stable this year and last year and approximately \$4,500,000 greater than the previous year. This was a reflection of a rise in the average rate of return on combined loans and investments from 1.47 per cent the previous year to 1.77 per cent this year.

Net operating earnings. A good measure of a bank's earning performance is its net operating earnings. This figure represents

net income (a) exclusive of all recoveries on assets previously charged off and all security profits and (b) before transfers to reserves. The earning power of a bank may be measured by two ratios: "Net operating earnings/deposits and capital funds" and "Net operating earnings/capital funds."

Since the deposits and capital funds indicate the total working funds, the former ratio reflects the earning ability of the bank. The net operating earnings of Vista National Bank, for example, represented a 0.61 per cent return on deposits and capital funds this year (\$29,333,000/\$4,729,960,665) compared with 0.63 per cent last year and 0.54 per cent the previous year.

The latter ratio, on the other hand, indicates the return on the stockholders' investment. The net operating earnings of Vista National Bank represented 8.4 per cent return on capital funds this year (\$29,333,000/\$345,388,274) compared with 8.8 per cent last year and 8.0 per cent the previous year.

Market value. The market value of a share of bank stock should be related to the book value, the earnings, and the dividend. The market value should not exceed $1\frac{1}{4}$ times the book value. The stock of Vista National Bank has sold at a discount from book value in each year.

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------------|------------------|------------------|-------------------|
| Market value | \$35.00 | 35.00 | 36.00 |
| Book value | \$46.67 | 44.29 | 43.52 |
| Market/Book (Times) | .75 | .79 | .83 |
| Earned per share | \$ 2.63 | 2.37 | 2.68 |
| Market/Earned (Times) | 13.3 | 14.7 | 13.4 |
| Dividend | \$ 1.60 | 1.60 | 1.60 |
| Dividend/Earned | %60.8 | 67.5 | 59.7 |
| Yield. | % 4.5 | 4.5 | 4.5 |

The market value should not exceed 15 times earnings. The stock has sold at 13-14 times earnings in each year. The dividend should provide a yield of at least 4 per cent. The bank has distributed as dividend between 60 and 68 per cent of earnings which has been a 4.5 per cent yield on the market price.

Summary.

VISTA NATIONAL BANK

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| % change in deposits | +3.4% | -5.3% | -0.4% |
| Deposits/Capital funds (times) | 12.7 | 12.9 | 13.9 |
| Loans/Deposits | 31.4% | 35.4% | 29.6% |
| Investments/Deposits | 46.7% | 38.5% | 49.7% |
| Average rate of return—loans & investments | 1.77% | 1.69% | 1.47% |

| | | | |
|--|---------|---------|---------|
| Net operating earnings/Capital funds.. | 8.4% | 8.8% | 8.0% |
| Per share: | | | |
| Book value. | \$46.67 | \$44.29 | \$43.52 |
| Market value | \$35 | \$35 | \$36 |
| Market value/Book value (times)... | .75 | .79 | .83 |
| Earned | \$2.63 | \$2.37 | \$2.68 |
| Net operating earnings. | \$3.96 | \$3.95 | \$3.46 |
| Market value/Earned (times)..... | 13.3 | 14.7 | 13.4 |
| Dividend | \$1.60 | \$1.60 | \$1.60 |
| Dividend/Earned... | 60.8% | 67.5% | 59.7% |
| Dividend yield..... | 4.5% | 4.5% | 4.5% |

Review Questions

1. Name the two classes of commercial banks.
2. Discuss the sources of bank earnings.
3. Indicate the content and significance of capital funds.
4. Distinguish between paid-in surplus, earned surplus, and undivided profits.
5. Discuss the relationship between surplus and undivided profits.
6. A bank with 900,000 shares of \$100 par value stock outstanding reported as follows in December 31:

| | |
|-------------------------------|---------------|
| Capital | \$ 90,000,000 |
| Surplus | 170,000,000 |
| Undivided Profits | 61,627,361 |
| General Contingency Reserve.. | 32,754,549 |

On the following January 10 it voted (a) to declare a stock dividend on the basis of one share for each nine shares held, payable February 15 to stockholders of record January 14, (b) to transfer \$40,000,000 from undivided profits to surplus, and (c) to transfer \$32,754,549 from general contingency reserve to undivided profits. Show capital, surplus, undivided profits, and general contingency reserve accounts on February 16.

7. Explain the significance and kinds of deposits.
8. Indicate the asset and the liability created by a letter of credit and an acceptance.
9. What is meant by federal funds?
10. Indicate the asset and liability arising out of a bank's endorsement on acceptances and foreign bills.
11. Indicate the miscellaneous liabilities in the bank balance sheet.
12. Explain the significance of the asset side of a bank balance sheet.
13. Name three classes into which the cash of a bank may be divided.
14. Indicate the effect of changes in the member bank reserve requirements upon the funds available for lending and investment by member banks.
15. Comment on the following statement in the financial section of a newspaper:

"Yesterday was the day that the Federal Reserve's boost in reserve requirements—1 per cent rise on demand deposits for the city banks—went into effect. A total of \$575,000,000 was involved, of which \$200,000,000 represented deposits of New York City banks. As a result the banks here were busy yesterday selling securities in preparation. The money market in consequence became stringent and Federal funds reached the ceiling of $1\frac{1}{8}$ per cent."

16. Describe the nature of a bank's security investments.
17. Explain the method of calculating a member bank's liability for subscription to the stock of the Federal Reserve bank of its district.
18. Discuss the significance of a bank's loans and discounts.
19. What is meant by a "term" loan?
20. Distinguish between real estate bonds and mortgages and real estate investments of a bank.
21. Indicate the miscellaneous assets of a bank.
22. Name the consideration involved in the analysis of deposits.
23. Discuss the significance of an analysis of the growth of deposits.
24. Discuss the significance to the depositor and to the stockholder of the ratio of deposits to capital funds.
25. Indicate the significance of the relation of deposits to earning assets.
26. Explain the calculation of book value per share of stock.
27. Explain the calculation of earnings per share from the balance sheet and the income statement.
28. Discuss the significance of an analysis of the sources of earnings.
29. Explain the significance of the ratios: "Net operating earnings/deposits and capital funds" and "Net operating earnings/capital funds."
30. Discuss the relation of the ratio of deposits to capital funds on the one hand and the amount of dividend paid on the other.
31. Indicate the relation of market value per share of stock to book value, earnings, and yield.

Assignment

- (a) Compute the required subscription of a member bank to the stock of the Federal Reserve bank on the basis of the following data:

| | |
|------------------------|-----------------|
| Deposits..... | \$4,205,072,012 |
| Capital. | 87,500,000 |
| Surplus. | 122,500,000 |
| Undivided Profits..... | 28,610,465 |

- (b) Compute the book value per share on the basis of the following data:

| | | | |
|------------------------------|--------------|--------------------|-----------------|
| Capital Stock | \$30,000,000 | Surplus... | \$ 80,000,000 |
| Undivided Profits..... | \$28,344,871 | Deposits | \$1,726,073,557 |
| Par Value of Stock | \$50 | | |

- (c) On the basis of the following data, compute the growth in deposits, the ratio of deposits to capital funds, the amount earned per share this year and last year, the ratio of net operating earnings to deposits and capital funds, the ratio of net operating earnings to capital funds, the price-earnings ratio, and the dividend yield:

| | <i>This Year</i> | <i>Last Year</i> | <i>Previous Year</i> |
|----------------------------------|------------------|------------------|----------------------|
| Deposits..... | \$964,148,000 | \$928,494,000 | \$795,277,000 |
| Capital Stock | 50,000,000 | 50,000,000 | 50,000,000 |
| Surplus & Undivided Profits..... | 56,429,000 | 54,907,000 | 54,194,000 |
| Dividends Paid..... | 3,000,000 | 3,000,000 | 3,000,000 |
| Par Value of Stock..... | \$10 | \$10 | \$10 |
| Net Operating Earnings | 5,022,000 | 4,213,000 | 3,501,000 |
| Market Price of Stock..... | \$13 | \$10 | \$10½ |

CHAPTER TWENTY-TWO

FIRE INSURANCE COMPANY STATEMENTS

Introduction. The operations of a fire insurance company include the underwriting of insurance risks and the investment of reserve funds. The public need for protection in fire insurance and allied lines has brought about the formation of groups or “fleets” of fire and casualty companies. Fire insurance companies have established casualty insurance subsidiaries and many casualty companies have organized fire insurance subsidiaries to carry fire, inland marine, and other fire lines. Two-thirds of the groups include casualty companies, and in some of those mixed groups the casualty companies are larger than the fire companies.

Types of insurance. Fire insurance companies underwrite a wide diversity of risks such as fire, motor vehicle, inland navigation and transportation, ocean marine, extended coverage, tornado, windstorm, cyclone, hail, sprinkler leakage, riot, civil commotion, explosion, earthquake, and aircraft. Fire insurance risks represent more than 50 per cent of the total risks underwritten. The net premiums written by Westford Fire Insurance Company, this year, for example, were as follows:

| | |
|--------------------------------|----------------------|
| Fire | \$63,949,161 |
| Extended coverage | 14,069,267 |
| Ocean marine | 3,689,552 |
| Auto liability | 50,011 |
| Auto property damage | 27,511 |
| Auto physical damage | 28,596,474 |
| Earthquake | 141,202 |
| Inland navigation | 13,055,396 |
| Tornado | 1,205,482 |
| Hail | 1,828,450 |
| Sprinkler leakage | 232,312 |
| Riot, etc. Dr. | 40,753 |
| Aircraft | 207,494 |
| Rain and flood | 161,740 |
| Wartime pool Dr. | 342,488 |
| Total | <u>\$126,830,810</u> |

Underwriting. The profitable operation of underwriting depends upon the receipt of sufficient premium income to exceed the payment of commissions to agents, administrative expenses, and losses to policyholders. Insurance premium rates and the methods of fixing the rates differ with the various classes of insurance written, the nature of the risk, and the states, territories or countries in which the business is done. Premium rates are made by rating bureaus. Although the conditions of membership and management methods vary in the different bureaus, all of them analyze the hazards involved and the combined experience of the members in order to promulgate rates which are reasonable, adequate and non-discriminatory. In most jurisdictions the rates promulgated by the bureaus must be approved by government authority before they may be used. Experience data are compiled annually by the National Board of Fire Underwriters for stock companies and by the Federation of Mutual Fire Insurance Companies for mutual companies. The trend of loss experience is considered in the formulation of premium rates. The rates allowed enable the fire insurance companies to earn a reasonable underwriting profit. Insurance law, recognizing that insurance is an indispensable factor in our economy, provides for the continued solvency of the insurance industry by requiring that insurance companies charge rates based on actual experience, thereby assuring enough income over a period of years to pay losses and expenses and leave a profit to the insurance industry as a whole. In New York State the New York Fire Insurance Rating Organization uses all this experience in arriving at the actual rates, which are predicated upon a five-year experience period. The fact that the experience period covers five years, however, accounts for the lag in any increase in rates in a period of rapidly rising repair and replacement costs. The rates promulgated must be submitted to the Superintendent of Insurance, who may order the rates withdrawn if in his opinion they are "inadequate, excessive, or unfairly discriminatory or otherwise unreasonable." Provision is made in the official rate for a $2\frac{1}{2}$ per cent profit factor. In view of the fact, however, that insurance rate-making procedures are based upon results of the industry as a whole within each area of regulatory jurisdiction, there is obviously no assurance that the operation of any one company will be profitable and, for this reason, careful selection by the investor is essential.

Investment. The fire insurance company must invest the large

reserve funds that it is required to carry for the protection of the policyholders. The profitable operation of investing depends upon the receipt of income as large as is consistent with the safety of the principal. Inasmuch as insurance premiums are payable in advance and on policies that run from one to five years, insurance companies have the use of funds that are repayable in the form of loss claims over prolonged periods. Fire and extended coverage insurance policies are frequently written for terms of three or five years. Other classes are usually written for one year or less, but occasionally for longer terms. Even if the entire premium is eventually disbursed in the payment of losses and expenses, the policy may still prove profitable to the company in that the funds paid in premiums have produced income while retained by the company. As a result of the two kinds of operations of the company, the common stockholders' position is affected by the profitable operation of underwriting and of investing by the company.

Statements. The statutes pertaining to the regulation of the insurance business vary from state to state. In general, however, they establish a supervisory agency with broad administrative powers, prescribe requirements for organization of insurance companies within the state, regulate the admission and licensing of out-of-state and alien insurers, provide for the licensing of agents and brokers, establish supervision over premium rates and policy conditions, determine the manner and bases of stating assets and liabilities of insurers, require the filing of financial and other reports by insurers and examination of the business and accounts of insurers by the regulatory body, and, to a limited extent, prescribe the type of investments which may be made by different classes of insurers. Insurance companies are required in New York to file annual statements with the State Insurance Department. The statement is prescribed in form and usually shows the capital stock, income, disbursements, assets and liabilities, surplus, and other funds, with supporting schedules. It is known as a "convention statement" and the results reported therein are often referred to as "statutory" results. This statement is available to the public. The financial statement issued by the company to the stockholders, however, usually includes only a balance sheet and a list of the security investments, and, in some recent reports, an income statement.

Liabilities. The liability side of the balance sheet of a fire and

casualty insurance company consists largely of capital and reserves. The capital includes capital stock, surplus, and voluntary reserve.

WESTFORD FIRE INSURANCE CO.
Statement, December 31, This Year

| <i>Assets</i> | |
|--|----------------------|
| United States Bonds and Treasury Notes..... | \$ 93,028,033 |
| Bonds of other Governments (Canada, etc.) .. | 3,718,581 |
| State, County, and Municipal Bonds..... | 4,231,546 |
| Railroad Bonds .. | 3,335,747 |
| Public Utility Bonds .. | 117,442 |
| Miscellaneous Bonds .. | 90,000 |
| Stocks..... | 139,688,906 |
| Real Estate and Mortgages..... | 5,872,230 |
| Cash..... | 33,966,931 |
| Premiums in course of collection .. | 18,667,836 |
| Accrued Interest..... | 432,796 |
| Sundry Assets..... | 986,885 |
| Total Admitted Assets..... | <u>\$304,136,933</u> |

| <i>Liabilities</i> | |
|--|----------------------|
| Reserve for Unearned Premiums..... | \$116,713,418 |
| Reserve for Losses and Loss Expense .. | 27,481,266 |
| Reserve for Taxes .. | 8,000,169 |
| Reserve for Other Liabilities..... | 2,859,110 |
| Reserve for Dividends..... | 1,200,000 |
| Total Liabilities except Capital..... | <u>\$156,253,963</u> |
| Voluntary Reserve..... | 31,882,970 |
| Capital..... | 16,000,000 |
| Surplus..... | 100,000,000 |
| Surplus as Regards Policyholders..... | <u>\$147,882,970</u> |
| Total..... | <u>\$304,136,933</u> |

Stocks of owned insurance companies are carried at 80% of their book value. Other securities are valued each year in accordance with the ruling of the National Association of Insurance Commissioners. If market prices of such other Securities at December 31 were used, the Admitted Assets would be \$305,016,579 and the Voluntary Reserve \$32,762,616.

For instance, the capital account of Westford Fire Insurance Company was:

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------|----------------------|----------------------|
| Capital Stock (par \$10)..... | \$ 16,000,000 | \$ 16,000,000 |
| Surplus..... | 100,000,000 | 90,000,000 |
| Voluntary Reserve..... | 31,882,970 | 26,605,914 |
| | <u>\$147,882,970</u> | <u>\$132,605,914</u> |

Reserves. The reserves include reserve for unearned premiums, reserve for outstanding losses, and miscellaneous reserves. Westford Fire Insurance Company reported the following reserves:

| | <i>This Year</i> | <i>Last Year</i> |
|---|----------------------|----------------------|
| Reserve for Unearned Premiums | \$116,713,418 | \$106,432,801 |
| Reserve for Losses and Loss Expense . . | 27,481,266 | 22,102,863 |
| Reserve for Taxes | 8,000,169 | 11,195,200 |
| Reserve for Other Liabilities | 2,859,110 | 1,222,404 |
| Reserve for Dividends | 1,200,000 | 1,201,000 |
| | <u>\$156,253,963</u> | <u>\$142,153,268</u> |

The reserve for unearned premiums is usually the largest reserve. Premiums are collected in advance and consequently represent a prepaid expense to policyholders and unearned income to the insurance company. For example, if a one-year policy is written on August 15, it will expire on August 15 of the following year. As of December 31 following the date of issuance, the policy will have $7\frac{1}{2}$ months to run. The unearned premium, however, is calculated on the basis of half-months, with the result that on December 31 the balance sheet will show that $\frac{3}{4}$ of the premium has been earned and $1\frac{1}{4}$ is unearned. The company's statement on December 31, therefore, will show an unearned premium reserve equal to $1\frac{1}{4}$ of the annual premium. This reserve is the estimated amount of premiums that the company would be obliged to return to the policyholders as return premiums for the unexpired terms if every policy in force were cancelled or terminated on the date of the balance sheet. The premium charges made in connection with insurance written are not taken into earned income at the time the insurance is written, but are required by the insurance laws to be originally set up in full as a liability termed "Unearned Premium Reserve." These premiums are subsequently taken into earned premium income on a substantially equal monthly basis over the terms of the policy contracts. For example, assume that a one-year fire insurance policy is written for a premium of \$200. At the time the policy is effective, the company's balance sheet will show as an asset \$200 of cash or agents' balances due and as a liability \$200 of reserve for unearned premiums. As the policy continues in effect, successive portions of "unearned" premium become "earned" and are transferred from the reserve for unearned premiums to profit and loss. The other reserves include reserve for outstanding losses or estimated losses on claims reported and unreported, reserve for dividends or dividends declared but unpaid, and reserve for taxes and all other liabilities.

Assets. The assets of a fire insurance company consist of securities, cash, premiums in course of collection, real estate, mortgages, and miscellaneous assets. The securities that a company may

purchase are subject to the regulations of the state. In New York State, for example, the restrictions may be classified as those applicable to (a) minimum capital investments, (b) reserve investments, and (c) residue and surplus fund investments. A company must invest an amount equal to the minimum capital required by law in the following classes of securities that are not in default as to principal or interest: (1) direct and guaranteed obligations of the federal government; (2) direct obligations of the State of New York or of any county, district, or municipality in the state; (3) direct obligations of any other state; and (4) first mortgages up to two-thirds of the value of unencumbered real property located in the State of New York or mortgages guaranteed by the Federal Housing Administration. At least 60 per cent of the total amount of the required minimum capital investments must be in securities in classes 1 and 2.

A company must also invest in specified types of securities up to 50 per cent of the aggregate amount of unearned premium and loss reserves. Securities eligible for the fulfillment of this requirement include government obligations, corporate obligations, preferred or guaranteed stocks, trustees' or receivers' obligations, acceptances and bills of exchange, mortgages, real estate, foreign investments, and stock and debentures of housing companies which must meet the qualifications specified in the law. Residue and surplus funds may be invested, in general, in the securities of any solvent issuer, with certain limitations specified in the law.

The investments of Westford Fire Insurance Company, for example, consisted of:

| | <i>This Year</i> | <i>Last Year</i> |
|--|------------------|------------------|
| Bonds: | | |
| U. S. Bonds and Treasury Notes | \$93,028,033 | \$90,218,650 |
| Bonds of other Governments | 3,718,581 | 3,788,233 |
| State, County, and Municipal | 4,231,546 | 3,166,323 |
| Railroad | 3,335,747 | 3,071,063 |
| Public Utility | 117,442 | 396,634 |
| Miscellaneous | 90,000 | 90,000 |
| Total. | \$104,521,349 | \$100,730,903 |
| Stocks | 139,688,906 | 124,394,206 |
| Total. | \$244,210,255 | \$225,125,109 |

Security diversification. As a group, fire insurance companies have maintained a high degree of diversification and unusual liquidity in their invested assets. This has been due in large measure to their relatively large investments in stocks, both preferred and

common, which on the average have represented approximately 40 per cent of total admitted assets. As *Best's Insurance Reports* states:

In general, the fire companies have maintained a sufficient percentage of assets in so-called approved securities to cover adequately outstanding liabilities, and it is a fact that actively traded stocks are more liquid than many classes of bonds, and liquidity is an important element in view of the possible need for cash in the event of a conflagration.

The very nature of their operations makes liquidity of investments so necessary. The uncertainty of sudden large losses requires a substantial investment in highly marketable securities, which is afforded more readily by stocks than by bonds and mortgages. At the same time, the higher yield and the market appreciation in a rising stock market provide additional income to offset underwriting losses. Stock investments of Westford Fire Insurance Company, for example, represented 57.2 per cent of total admitted assets this year, compared with 45.2 per cent last year.

Security valuation. Prior to 1931 it was generally customary for insurance companies, particularly fire and casualty companies, to value their bonds and stocks at prevailing market quotations at the end of the year. In 1931, however, the National Association of Insurance Commissioners (then known as the National Convention of Insurance Commissioners) established what has been called "Association Values," which were arbitrary values theoretically representing "fair value" in contrast to "market value" in the instance of securities which were selling at relatively low prices. Since 1941, however, bonds amply secured and not in default have been carried at amortized values; stocks and non-amortizable bonds have been carried at the market value as of December 1 of each year.

Miscellaneous assets. The other assets of a fire or casualty company consist chiefly of cash, premiums in course of collection, real estate and mortgages, and miscellaneous assets. For example, Westford Fire Insurance Company reported the following assets in addition to investments:

| | <i>This Year</i> | <i>Last Year</i> |
|---------------------------------------|---------------------|---------------------|
| Cash..... | \$33,966,931 | \$27,074,039 |
| Premiums in Course of Collection..... | 18,667,836 | 15,517,356 |
| Accrued Interest | 432,796 | 360,348 |
| Real Estate and Mortgages..... | 5,872,230 | 5,952,792 |
| Sundry Assets. | 986,885 | 729,538 |
| | <u>\$59,926,678</u> | <u>\$49,634,073</u> |

Admitted assets. The total assets of a company generally exceed the total "admitted assets." The total assets include all the assets of the company. Assets that are not in accord with the state law or Insurance Department rulings are excluded from the total assets, and the balance is referred to as "total admitted assets." Insurance laws generally exclude as admitted assets such items as prepaid expenses, furniture and equipment, balances over three months due, excess book value of stocks of affiliates over admitted asset value, and adjustments due to rate of exchange on foreign currencies. For example, Westford Fire Insurance Company this year reported total assets of \$305,135,971 but total admitted assets of \$304,136,933. The difference of \$999,038 represented assets that were not admissible.

Liquidating value. Since insurance companies invest their assets in readily marketable securities and their outstanding insurance liabilities generally can be sold to or reinsured by another company, investors place considerable emphasis on the liquidating value of the stock. The liquidating value of the common stock represents the value of the stock in terms of net assets. It is measured by the sum of the capital stock, surplus, 40 per cent of the unearned premium reserve, and the voluntary or contingency reserve. Since all expenses incurred in the acquisition of the business represented by the unearned premium reserve have been paid or reserved for, there is a value or equity in such reserve. This value or equity is commonly referred to as "Unearned Premium Reserve Equity." On the theory that 60 per cent of the unearned premiums will cover all future losses under the policies in force, it is assumed that at least 40 per cent of the unearned premium reserve will eventually become earned surplus.¹

All stocks and non-amortizable bonds shown on the asset side of the balance sheet are carried at their December 1 market prices, in accordance with the ruling of the National Association of Insurance Commissioners. The voluntary reserve of \$31,882,970 reported by Westford Fire Insurance Company this year was based on the December 1 valuation of the securities. This compared with a voluntary reserve of \$26,605,914 last year and \$14,720,306 the previous year. The annual reports stated, however, that if market values of December 31 had been used, the "Admitted Assets" and the

¹Best suggests the following percentages according to the type of insurance: directly written, 40 per cent; reinsurance premiums in the fire and marine field, 35 per cent; casualty and surety fields, 15-40 per cent.

voluntary reserve would have been increased by \$879,646 this year and by \$1,694,335 last year. Since recognition must be given to the increase in market values between December 1 and December 31, the total liquidating value of the common stock on December 31 was \$195,447,983 this year.

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------------|----------------------|----------------------|
| Capital Stock..... | \$ 16,000,000 | \$ 16,000,000 |
| Surplus..... | 100,000,000 | 90,000,000 |
| 40% of Unearned Premium Reserve ... | 46,685,367 | 42,573,120 |
| Voluntary Reserve..... | 32,762,616 | 28,300,249 |
| Total Liquidating Value..... | <u>\$195,447,983</u> | <u>\$176,873,369</u> |

On the basis of 1,600,000 shares outstanding, the liquidating value per share was \$122.15 this year (\$195,447,983/1,600,000) compared with \$110.55 last year.

On the other hand, recognition also must be given to any decrease in market values as of December 31. The voluntary reserve of \$9,619,040 reported by the same company four years ago was based on the December 1 valuation of the securities. The annual report stated, however, that on the basis of December 31 market values the admitted assets and the voluntary reserve would have been decreased by \$1,036,775. On this basis the liquidating value per share was \$107.22 (\$128,665,421/1,200,000):

| | |
|-------------------------------------|----------------------|
| Capital Stock.. . . . | \$ 12,000,000 |
| Surplus. | 75,000,000 |
| 40% of Unearned Premium Reserve ... | 33,083,156 |
| Voluntary Reserve*. | <u>8,582,265</u> |
| Total | <u>\$128,665,421</u> |

* \$9,619,040 - \$1,036,775.

Capital position. A growth in the volume of insurance written may make it advisable for a company to obtain additional funds in order to maintain its relative position. As an insurance company must maintain a reserve for unearned premiums on a full 100 per cent basis, a period of rapidly increasing premium volume tends to reduce the relationship between capital and surplus on the one hand and the volume of premiums written on the other and may necessitate the raising of new capital by the company. In recent years many companies have found it necessary to increase their capital for this reason.

Operating statement. The operating statement reports the underwriting income and the investment income. Westford Fire Insurance Company reports the following operating statement:

INVESTMENT ANALYSIS

Underwriting Income

| | <i>This Year</i> | <i>Last Year</i> |
|--|----------------------|----------------------|
| Premiums Written | \$126,830,810 | \$122,118,676 |
| Increase in Reserve for Unearned Premiums | 10,280,616 | 9,032,354 |
| Net Premiums Earned | <u>116,550,194</u> | <u>113,086,322</u> |
| Losses and Loss Expenses Incurred | 59,338,888 | 47,712,486 |
| Underwriting Expenses (except taxes) Incurred | 46,113,328 | 44,027,007 |
| Taxes, Licenses and Fees, excluding Federal Income Tax | 3,783,398 | 3,613,821 |
| | <u>\$109,235,614</u> | <u>\$ 95,353,314</u> |
| Net Underwriting Income before Federal Income Tax | \$ 7,314,580 | \$ 17,733,008 |

Investment Income

| | | |
|---|---------------------|---------------------|
| Investment Income Earned, less Real Estate Taxes, Expenses and Depreciation and Investment Expenses | 7,252,781 | 6,441,130 |
| Net Realized Capital Gains or Losses | 29,254 | 16,297 |
| Net Investment Income before Federal Income Tax | <u>\$ 7,282,035</u> | <u>\$ 6,457,427</u> |

Other Income

| | | |
|--|---------------------|---------------------|
| Net Miscellaneous Income before Federal Income Tax | 8,422 | —55,942 |
| Total Income before Federal Income Tax | 14,605,037 | 24,134,493 |
| Federal Income Tax Incurred | 4,378,001 | 7,650,884 |
| Total Net Income after Federal Income Tax | <u>\$10,227,036</u> | <u>\$16,483,609</u> |

Underwriting income. The premiums written represent the aggregate amount of the premiums upon all policies issued during the year covered by the statement, whether the premiums had been collected or not at the close of the year, less all returned and reinsurance premiums. Returned premiums are the premiums returned on cancelled policies. Reinsurance premiums represent the net cost to the company of distributing the risk especially for large policies through reinsurance. The consolidated statement of the American Insurance Company in a recent year reported:

| | |
|---|---------------------|
| Premiums Written (after deduction of cancellations and return premiums) | \$42,814,018 |
| Reinsurance Premiums Assumed | 16,409,900 |
| | <u>\$59,223,918</u> |
| Reinsurance Premiums Ceded to Others | 14,176,017 |
| Net Premiums Written | <u>\$45,047,901</u> |

Reinsurance consists of insurance assumed from or ceded to other insurers and arises from the desire of an insurer to limit its maximum loss on a large or unusually hazardous risk or to obtain a greater diversification of risk. The reinsurance with respect to any one risk usually applies to only a portion of the insurance thereon.

The ceding of reinsurance does not discharge the original insurer from its primary liability to its policyholder. Subject to certain statutory limitations, however, the accounting practice of insurers is to treat reinsured risks, to the extent of the reinsurance ceded, as though they were not risks for which the original insurers are liable. Reinsurance of risks is effected either (a) automatically pursuant to general reinsurance contracts or "treaties" with other insurers or (b) by negotiation as to particular risks, which is known as "facultative" reinsurance. Premiums written, therefore, indicate the net amount of business obtained by the company during the year.

Net premiums earned represent the adjustment of the premiums written in accordance with the increase or decrease during the year of the liability of the company for unearned premiums. For instance, the \$126,830,810 of premiums written this year by the Westford Fire Insurance Company were not all earned, since unearned premium reserve had increased by \$10,280,616, thereby reducing the premiums earned for this year to \$116,550,194. Premiums earned reflect the actual amount of insurance service rendered. When a company's volume of business expands, as evidenced by the increase in premiums written, the premiums earned will always be less than the premiums written. Inasmuch as premiums are paid in advance, an increased volume of business necessitates the setting up of a larger reserve for unearned premiums. No deduction from the amount of premiums set up in the unearned premium reserve is permitted for the commissions paid or payable to agents for securing this business, for state taxes on such premiums or for any other expense incurred when the policy is issued, although separate liabilities must be set up for such incurred expenses until paid. Likewise, the insurance laws do not permit any amount to be carried as an admitted asset which would represent any such prepaid expenses. These requirements have the effect of charging against earned income all expenses (such as commissions) in connection with the issuing of any policy at the time it is issued, while the premium on such policy is reflected as earned over the term of the policy contract. As a result, in any period of increasing volume of underwriting, this method of accounting produces less underwriting income than would be produced if such expenses were charged concurrently as the premiums are earned. The reverse is true in the instance of a declining volume of business. The reported underwriting income is greater than would be reported if

such expenses were charged concurrently as premiums are earned.

Net underwriting income represents the balance of the net premiums earned after the deduction of underwriting expenses and of losses incurred during the year. Westford Fire Insurance Company incurred underwriting expenses this year of \$46,113,328, losses and loss expenses of \$59,338,888, and miscellaneous expenses of \$3,783,398, as a result of which net underwriting income was \$7,314,580 compared with \$17,733,008 last year. On the other hand, however, a company may incur an underwriting loss instead of a profit. In a prior year the Westford Fire Insurance Company incurred total underwriting expenses and incurred losses of \$87,246,324, which exceeded premiums earned by \$1,575,980.

Investment income. Fire insurance companies derive a substantial amount of income from the investment of the capital, the surplus, and the funds in their various reserves. Net investment income of Westford Fire Insurance Company this year amounted to \$7,282,035 compared with \$6,457,427 last year. This net investment income included \$29,254 of net realized capital gain compared with \$16,297 last year.

Total net income. The total income before Federal income tax this year amounted to \$14,605,037 consisting of:

| | |
|-------------------------------|---------------------|
| Net underwriting income..... | \$7,314,580 |
| Net investment income..... | 7,282,035 |
| Net miscellaneous income..... | 8,422 |
| | <u>\$14,605,037</u> |

Total net income after Federal income tax of \$4,378,001 amounted to \$10,227,036. Last year the aggregate net underwriting and investment income was \$24,190,435. Inasmuch, however, as net miscellaneous income was a deficit of \$55,942, the total income before Federal income tax was reduced to \$24,134,493. Total net income after Federal income tax was \$16,483,609.

Capital and surplus. The statement of surplus as regards policyholders consists of capital, surplus, and voluntary reserve. According to the balance sheet this surplus was \$147,882,970 this year compared with \$132,605,914 last year. The causes for the change were explained in the following statement:

| | <i>This Year</i> | <i>Last Year</i> |
|--|----------------------|----------------------|
| Surplus as Regards Policyholders at beginning of year: | | |
| Surplus..... | \$ 90,000,000 | \$ 75,000,000 |
| Voluntary Reserve..... | 26,605,914 | 14,720,306 |
| Capital..... | 16,000,000 | 12,000,000 |
| Total..... | <u>\$132,605,914</u> | <u>\$101,720,306</u> |

Gains and Losses during year:

| | | |
|---|---------------|---------------|
| Gains from Operations..... | 10,227,036 | 16,483,609 |
| Net Unrealized Capital Gains or Losses..... | 9,874,605 | 17,449,135 |
| Net Gain or Loss from Changes in Non-Admitted Assets..... | -141,417 | 141,136 |
| Net Gain or Loss from Sundry Accounts..... | 116,832 | -188,272 |
| Capital Stock Increase..... | nil | 4,000,000 |
| Dividends to Stockholders..... | -4,800,000 | *-7,000,000 |
| Total Increase in Surplus as Regards Policyholders during year..... | 15,277,056 | 30,885,608 |
| Total Surplus as Regards Policyholders at December 31..... | \$147,882,970 | \$132,605,914 |

* Includes Stock Dividend of \$4,000,000.

The surplus as regards policyholders was increased each year by the gain from operations and by the net unrealized capital gains. This year, however, there was a net loss from changes in non-admitted assets of \$141,417 compared with a net gain of \$141,136 last year. On the other hand, there was a net gain from sundry accounts of \$116,832 this year compared with a net loss of \$188,272 last year. Last year the company increased the capital stock by 400,000 shares through a stock dividend which, at the rate of \$10 per share par value, increased the capital stock by \$4,000,000 or from \$12,000,000 to \$16,000,000. The total increase in surplus as regards policyholders this year of \$15,277,056 was distributed between surplus and voluntary reserve as follows:

| | <i>Surplus</i> | <i>Voluntary Reserve</i> |
|---------------------------|----------------|--------------------------|
| Beginning of year..... | \$ 90,000,000 | \$26,605,914 |
| Increase during year..... | 10,000,000 | 5,277,056 |
| End of year..... | \$100,000,000 | \$31,882,970 |

Expense and loss ratios. The success of the underwriting operations of the company is tested by two ratios: expense ratio and loss ratio.

Expense ratio. The expense ratio is expressed as the relation between the underwriting expenses incurred and the premiums written. The underwriting expense ratio is calculated against premiums written since by far the greater part of underwriting expenses, particularly commissions, are incurred and charged to profit and loss upon the writing of policies rather than over their terms. The underwriting expenses include such overhead or operating expenses as commissions, rents, salaries, and taxes. For example, Westford Fire Insurance Company reported total underwriting expenses of \$49,896,726 and premiums written of \$126,830,810, or an expense ratio of 39.3 per cent, compared to 39.1 per cent last year.

The purpose of the expense ratio is to determine the cost to the company of obtaining the volume of business.

Loss ratio. The loss ratio is calculated as the relation between the losses incurred (including loss adjustment expense) and the premiums earned. The loss ratio is calculated against premiums earned since the losses occur over the life of the policy. For example, Westford Fire Insurance Company this year reported losses incurred of \$59,338,888 and premiums earned of \$116,550,194, or a loss ratio of 50.9 per cent, compared with 42.2 per cent last year. An analysis of the distribution of losses for the company revealed the following:

| | <i>This Year</i> | <i>Last Year</i> |
|--|------------------|------------------|
| Fire | 41.1% | 38.9% |
| Ocean marine | 37.1 | 26.8 |
| Motor vehicle | 39.4 | 34.4 |
| Inland navigation and transportation | 51.4 | 48.0 |
| Extended coverage | 82.2 | 38.6 |
| Hail | 35.2 | 39.5 |

The company experienced an increased percentage of loss in each form of insurance except in hail, with the greatest increase in extended coverage. The purpose of the loss ratio is to determine whether the quality of the business, as measured by losses, is satisfactory. It is the major factor determining the profitableness of the underwriting operations.

In order to reflect the composite result of changes in the expense ratio and the loss ratio it is customary to combine them to obtain a combined ratio. The combined ratio for Westford Fire Insurance Company rose from 81.3 per cent last year to 90.2 per cent this

| | <i>This Year</i> | <i>Last Year</i> |
|--------------------------|------------------|------------------|
| Expense ratio | 39.3% | 39.1% |
| Loss ratio | 50.9 | 42.2 |
| Combined ratio | 90.2% | 81.3% |

year, primarily as a result of the increase in the loss ratio.

Net underwriting profit/premiums earned. The expense ratio and the loss ratio are closely related. Some companies follow a very cautious policy of investigating each risk thoroughly and often at considerable expense. While this policy results in a high expense ratio, it is usually compensated for by smaller losses as indicated by the loss ratio. On the other hand, other companies are rather liberal in the assumption of risk, with the resultant low expense ratio but a correspondingly higher loss ratio. The relationship of these factors is reflected in the ratio "Net underwriting

profit/premiums earned," which provides a measure of the underwriting results of companies writing the same type of insurance. The net underwriting profit of the Westford Fire Insurance Company represented a return of 6.3 per cent this year, compared to 15.7 per cent last year.

Earnings per share. The earnings per share of the stock are usually calculated before and after taxes. Earnings per share before taxes reflect the earning power of the company. Total net earnings represent the sum of the net underwriting profit (statutory underwriting gains), the net investment income and other income plus 40 per cent of any increase or minus 40 per cent of any decrease in the unearned premium reserve. For instance, the total net earnings of Westford Fire Insurance Company were calculated as follows:

| | <i>Thus Year</i> | <i>Last Year</i> |
|---|---------------------|---------------------|
| Total income before Federal Income Tax. | \$14,605,037 | \$24,134,493 |
| 40% of Increase in Unearned Premium Reserve . . . | 4,112,246 | 3,612,942 |
| Total Net Earnings | <u>\$18,717,283</u> | <u>\$27,747,435</u> |

Net underwriting profit includes underwriting profit and loss items. Net investment income, however, excludes realized or unrealized profits or losses on securities and other assets, as well as any unusual adjustments of surplus. The full premium charged to the insured is calculated to be sufficient to absorb both expenses and losses incidental to the policy during its term and leave a reasonable profit for the company. Since the entire amount of the premium on a three-year policy, for example, which has not yet been earned at the end of the first year must be carried in reserve, even though all expenses of acquiring and issuing the policy have already been paid, it follows that the company has an "equity" or value in the reserve for unearned premiums roughly equal to the expenses already incurred for which the premium is not yet fully earned. In arriving at true net earnings for any year, therefore, the amount of increase or decrease in the equity in the reserve for unearned premiums must be taken into account. In the case of fire insurance companies the equity in the reserve for unearned premiums is generally calculated at 40 per cent, whereas in the case of casualty insurance companies 35 per cent is commonly used. Since Westford Fire Insurance Company experienced an increase of \$10,280,616 in reserve for unearned premiums, it gained an estimated equity in that reserve of \$4,112,246 (40 per cent of \$10,280,616). In view of the fact that the company had 1,600,000 shares outstanding, the

earnings were at the rate of \$11.70 this year, compared with \$17.34 last year.

Sources of earnings. Analysis of the sources of the earnings emphasizes the importance of investment operations to the success of a fire insurance company. A survey of one hundred fire insurance companies for a ten-year period by *The Spectator* revealed that only 52 companies earned any profit on writing insurance.

In the instance of Westford Fire Insurance Company, underwriting and investment operations each contributed approximately the same amount toward total earnings; however, a comparison with last year's operations indicates the wide fluctuation in underwriting income and the more stable earnings from investment operations.

| | <i>This Year</i> | <i>Last Year</i> |
|---------------------------------------|------------------|------------------|
| Underwriting. | \$ 4.57 | \$11.08 |
| Investment. | 4.55 | 4.04 |
| Other Income. | .01 | — .04 |
| Unearned Premium Reserve Equity. | 2.57 | 2.26 |
| | <u>\$11.70</u> | <u>\$17.34</u> |

Earnings after taxes. Though earnings per share before taxes reflect the earning power of the company, earnings per share after taxes are more pertinent to the stockholder as reflecting the earnings available for distribution as dividends. Net earnings after taxes of the Westford Fire Insurance Company were \$14,339,282 or at the rate of \$8.96 per share this year compared with \$12.56 per share last year.

Market value. The market value of a share of stock is usually measured in relation to the liquidating value, the dividend, and the amount earned per share after taxes. The market value should approximate the liquidating value. This condition has been char-

| | <i>This Year</i> | <i>Last Year</i> |
|----------------------------------|------------------|------------------|
| Market Value. | \$126 | 117 |
| Liquidating Value. | 122.15 | 110.55 |
| Market/Liquidating. (Times) | 1.0 | 1.1 |
| Dividend. | \$3.00 | 2.50* |
| Yield. | 2.4% | 2.1% |
| Market/Earned. (Times) | 10.7 | 6.7 |

* Plus stock dividend of $\frac{3}{8}$ share.

acteristic of Westford Fire Insurance Company stock. Inasmuch as it is the common practice of fire insurance companies to reinvest the underwriting profit in the business, the dividend on the stock is usually restricted to the investment profit. This practice is based on the theory that underwriting profits fluctuate widely with chang-

ing business and economic conditions, whereas income from the investments in a well-managed portfolio should be fairly steady. Underwriting profits are generally retained in surplus in order to finance future growth and to absorb unusual underwriting losses without disturbing dividend payments to stockholders. Under normal conditions a conservatively managed fire insurance company will show a total of investment income and earned premiums in excess of losses and expenses. In practice, however, as the *Spec-tator Insurance Year Book* points out:

Many of the more conservative companies limit dividend distribution to an amount not exceeding the investment income earned. Some, which are still more conservative, limit the amount distributed in the form of dividends to a figure not exceeding 75 per cent of investment income. This permits the company to retain 25 per cent of its investment income together with all underwriting profits, if any, as an addition to surplus for the protection of both policyholders and stockholders against the occurrence of a catastrophe or other abnormal losses, or against the shrinkage in the market value of the media in which the company's funds are invested.

The relation of the dividend to the investment profit in the instance of the Westford Fire Insurance Company is shown by the following:

| | <i>This Year</i> | <i>Last Year</i> |
|-------------------------------------|------------------|------------------|
| Investment Income. | \$4.55 | \$4.04 |
| Dividend. | 3.00 | 2.50* |
| Dividend/Investment Income. | 65.9% | 61.8% |

* Plus stock dividend of $\frac{1}{8}$ share.

The company paid out in dividends an average of approximately 64 per cent of the investment income. The stock sold to yield an average of about 2.3 per cent and at about 8.7 times earnings.

Summary.

| | <i>This Year</i> | <i>Last Year</i> |
|--|------------------|------------------|
| Underwriting: | | |
| Expense ratio. | 39.3% | 39.1% |
| Loss ratio. | 50.9% | 42.2% |
| Combined ratio. | 90.2% | 81.3% |
| Per share: | | |
| Liquidating value. | \$122.15 | \$110.55 |
| Market value. | \$126 | \$117 |
| Market value/Liquidating value (times) | 1.0 | 1.1 |
| Earned before taxes. | \$11.70 | \$17.34 |
| Underwriting. | \$4.57 | \$11.08 |
| Investment. | \$4.55 | \$4.04 |
| Earned after taxes. | \$8.96 | \$12.56 |
| Market value/Earned (times) | 10.7 | 6.7 |
| Dividend. | \$3.00 | \$2.50* |
| Dividend yield. | 2.4% | 2.1% |

* Plus stock dividend of $\frac{1}{8}$ share.

Review Questions

1. Distinguish between the underwriting and investment operations of a fire insurance company.
2. Explain the factors involved in the determination of premium rates.
3. Account for the lag in any increase in premium rates.
4. Indicate the general nature of the financial statements issued by fire insurance companies.
5. Explain the significance of capital stock and surplus.
6. Name the kinds of reserves established.
7. Discuss the significance of the reserve for unearned premiums.
8. Indicate the significance of the voluntary or contingency reserve.
9. Name the chief assets of a company.
10. Discuss the legal restrictions on securities eligible for investment.
11. Account for the policy of diversification and liquidity of investments.
12. Indicate the basis of valuation of bonds and stocks.
13. Distinguish between "total assets" and "total admitted assets."
14. Explain the calculation and the significance of the liquidating value per share of stock.
15. Name the types of income included in a company's report.
16. Distinguish between the following items in the underwriting statement: premiums written, net premiums earned, and net underwriting profit.
17. Account for the fact that net premiums earned are less than premiums written in a period of expanding volume of business.
18. Explain the meaning of the following items in the investment statement: net income received, loss on sale of securities, gain on sale of securities, and net investment profit.
19. Explain the purpose of the surplus statement.
20. Name the two ratios used to test the success of the underwriting operations.
21. Explain the calculation and significance of the expense ratio.
22. Explain the calculation and significance of the loss ratio.
23. Discuss the relationship of the expense ratio and the loss ratio.
24. Explain the significance of the ratio of net underwriting profit to net premiums earned.
25. Discuss the significance of the calculation of earnings per share before taxes.
26. Explain the calculation of earnings per share after taxes.
27. Discuss the significance of the investment operations to the company from the standpoint of earnings.
28. Explain the relationship between the net investment income and the dividend.
29. Discuss the relationship of the market value per share to the liquidating value per share.
30. Comment on the yield and price-earnings ratio of insurance stocks.

Assignment

- (a) Calculate the liquidating value per share from the following data:

| | |
|--------------------------------------|--------------|
| Capital Stock | \$ 5,000,000 |
| Surplus | 86,357,000 |
| Unearned Premium Reserve | 26,494,000 |
| Voluntary Reserve, Dec. 1 | 1,000,000 |
| Voluntary Reserve, Dec. 31 | 6,988,000 |
| Par Value of Stock | \$5.00 |

- (b) Calculate the net premiums earned and the net underwriting profit from the following data:

| | |
|--|--------------|
| Losses Incurred | \$15,463,000 |
| Increase in Unearned Premium Reserve | 2,553,000 |
| Underwriting Expense | 10,798,000 |
| Premiums Written | 35,864,000 |

- (c) Calculate the net investment profit from the following data:

| | |
|---|------------|
| Investment Expenses | \$ 136,000 |
| Realized Investment Gain | 153,000 |
| Gross Interest and Rents Received | 4,993,000 |

- (d) Calculate the expense and loss ratios from the following data:

| | |
|--------------------------------|--------------|
| Underwriting Expense | \$10,798,000 |
| Net Premiums Earned | 26,915,000 |
| Premiums Written | 29,468,000 |
| Losses Incurred | 15,463,000 |

- (e) Calculate the earnings per share before and after taxes from the following data:

| | |
|--|------------|
| Net Underwriting Profit | \$ 654,000 |
| Taxes | 886,000 |
| Increase in Unearned Premium Reserve | 2,553,000 |
| Net Investment Income | 4,830,000 |
| Realized Investment Gain | 153,000 |
| Number of Shares | 1,500,000 |

APPENDIX A

SOURCES OF INFORMATION

The compilation of pertinent information is the first task of the investor. The following partial classification is presented for the convenience of the investor.

Official reports. The official reports of the issuer constitute the primary source of information and are issued annually, and are sometimes supplemented by interim reports.

Financial periodicals. Some periodicals provide information with respect both to companies and to industries and also with respect to general business. They include:

Analysts Journal: quarterly, The New York Society of Security Analysts, New York.

Bank & Quotation Record: monthly, William B. Dana Company, New York.

Barron's: weekly, Barron's Publishing Company, Boston.

Bond Buyer: weekly, The Bond Buyer, New York.

Business Week: weekly, McGraw-Hill Publishing Company, New York.

Commercial and Financial Chronicle: bi-weekly, William B. Dana Company, New York.

Dun's Review: monthly, Dun & Bradstreet, New York.

Exchange: monthly, New York Stock Exchange, New York.

Financial World: weekly, Guenther Publishing Company, New York.

Journal of Commerce: daily, Journal of Commerce Company, New York.

Magazine of Wall Street: bi-weekly, Ticker Publishing Company, New York.

Monthly Earnings Record: monthly, William B. Dana Company, New York.

State and Municipal Compendium: semi-annually, William B. Dana Company, New York.

Wall Street Journal: daily, Dow, Jones & Company, New York.

Trade publications. Certain magazines are devoted exclusively to special fields. Among these are:

Banks—*Banking*: monthly, American Bankers Association, New York.

Electric power—*Electrical World*: weekly, McGraw-Hill Publishing Company, New York.

Gas—*American Gas Association Monthly*: American Gas Association, New York.

Iron and steel—*Iron Age*: weekly, Chilton Company, Philadelphia.

Mining—*Engineering and Mining Journal*: monthly, McGraw-Hill Publishing Company, New York.

Petroleum—*National Petroleum News*: weekly, National Petroleum Publishing Company, Cleveland.

Public utilities—*Public Utilities Fortnightly*: Public Utilities Reports, Baltimore.

Steam railroads—*Railway Age*: weekly, The Simmons-Boardman Publishing Corporation, Philadelphia.

Steel—*Steel*: weekly, Penton Publishing Company, Cleveland.

Telephone—*Bell Telephone Quarterly*: American Telephone & Telegraph Company, New York.

Textile—*Textile World*: monthly, McGraw-Hill Publishing Company, New York.

Federal commissions. Pertinent information with respect to individual companies is found in the reports issued by such federal regulatory commissions as the Interstate Commerce Commission, the Federal Power Commission, the Federal Communications Commission, and the Securities and Exchange Commission. The registration statements and the prospectuses filed with the latter commission in connection with new security issues are especially informative.

Stock exchange listing statements. The listing statements issued in connection with new listings on the various exchanges occasionally contain information not previously published elsewhere.

Economic bulletins. Among the bulletins on general business conditions issued by banking institutions are:

Bulletin: monthly, The National City Bank of New York, New York.

Business Bulletin: monthly, The Cleveland Trust Company, Cleveland.

Guaranty Survey: monthly, Guaranty Trust Company, New York.

Monthly Review: monthly, individual Federal Reserve Banks.

Investment services. Investment services may be classed as those which emphasize the reporting of statistical data and those which emphasize the interpretation of data. Among the former services are Moody, Standard & Poor, Fitch, and Best, and among the latter services are Babson, Brookmire, Alexander Hamilton, and United.

Government reports. Among the many publications of government departments and agencies are:

Comptroller of the Currency: annual report.

Domestic Commerce: monthly, U. S. Department of Commerce.

Federal Deposit Insurance Corporation: annual report.

Federal Reserve Bulletin: monthly, Board of Governors of the Federal Reserve System.

Foreign Commerce Yearbook: annually, U. S. Department of Commerce.

Secretary of the Treasury: annual report.

Statistical Abstract: annually, U. S. Department of Commerce.

Survey of Current Business: monthly, U. S. Department of Commerce.

Treasury Bulletin: monthly, U. S. Treasury Department.

APPENDIX B

READING THE FINANCIAL PAGE

New York Stock Exchange. The following excerpts from the report of transactions on the New York Stock Exchange are taken from *The Wall Street Journal*:

NEW YORK STOCK EXCHANGE STOCK TRANSACTIONS

Friday, November 16, This Year

| <i>This Year</i> | | <i>**\$</i> | | | | | | | | <i>Closing</i> | |
|-------------------|-------------------|----------------|---------------|--------------|-------------------|-------------|-------------------|--------------|------------------|-------------------|-------------------|
| <i>High</i> | <i>Low</i> | <i>Div.</i> | <i>Stocks</i> | <i>Sales</i> | <i>Open</i> | <i>High</i> | <i>Low</i> | <i>Close</i> | <i>Chge</i> | <i>Bid</i> | <i>Asked</i> |
| 189 | 153 $\frac{1}{4}$ | 6 | Al Ch & Dye | 900 | 188 | 189 | 186 | 186 | -3 | 182 $\frac{1}{2}$ | 186 |
| 112 $\frac{7}{8}$ | 89 $\frac{1}{2}$ | 3 | Am Can | 500 | 103 $\frac{1}{2}$ | 105 | 103 $\frac{1}{2}$ | 105 | +1 $\frac{3}{4}$ | 104 $\frac{1}{4}$ | 106 |
| 196 | 183 $\frac{3}{4}$ | ^a 7 | Am Can pf | 160 | 196 | 196 | 196 | 196 | + $\frac{3}{4}$ | 196 | 197 $\frac{1}{2}$ |

** Dividends, unless otherwise specified, are total paid or payable in 12 months to and including the payable date of the most recent dividend announcements.

^a Annual basis.

The above report of transactions in the designated stocks gives the investor information concerning: (a) the price range for the year; (b) the dividend; (c) the volume of sales for the day; and (d) the prices for the day. Interpreting the quotation for Allied Chemical & Dye common stock, the price of the stock from January 2 to November 16, this year, ranged from a high of \$189 a share to a low of \$153 $\frac{1}{4}$ a share. A dividend is paid on the stock at an annual rate of \$6 a share. The total volume of sales on November 16 was 900 shares. The first or opening transaction in the stock was at \$188 a share; during the trading day the highest price at which the stock sold was \$189 a share and the lowest price \$186 a share; the last sale in the stock before the close of the trading day was at \$186 a share. The net change of “- 3” means that the closing price of \$186 a share on November 16 was three points lower than the closing price in the stock of \$189 a share on the preceding trading day. After the last transaction in the stock on November 16, and before the close of the trading day, buyers of the stock were offering to pay \$182 $\frac{1}{2}$ a share while sellers were asking \$186 a share.

Quotations on preferred stocks are designated “pf” as, for ex-

ample, American Can preferred, which closed at \$196 a share. Unless so designated, the quotation refers to the common stock of the company; for example, American Can common, which closed at \$105 a share. The net change in the closing prices of a stock may be "minus" or "plus." The significance of "minus" has been explained above in the instance of Allied Chemical & Dye common stock. The closing price of American Can common of \$105 represented an increase of $1\frac{3}{4}$ points over the closing price on the preceding trading day, which was \$103 $\frac{1}{4}$.

The following excerpt of bond transactions on the New York Stock Exchange for the same day is taken from *The Wall Street Journal*:

NEW YORK STOCK EXCHANGE BONDS

Friday, November 16, This Year

| <i>This Year</i> | | <i>Bonds</i> | <i>Sales*</i> | | <i>Open</i> | <i>High</i> | <i>Low</i> | <i>Close</i> | <i>Chge</i> |
|-------------------|-------------------|-------------------------------|---------------|----|-------------------|-------------------|-------------------|-------------------|-----------------|
| <i>High</i> | <i>Low</i> | | | | | | | | |
| 102 $\frac{1}{2}$ | 100 $\frac{1}{4}$ | Goodrich 2 $\frac{3}{4}$ s | '65 | 37 | 102 $\frac{1}{4}$ | 102 $\frac{1}{2}$ | 102 $\frac{1}{4}$ | 102 $\frac{1}{2}$ | + $\frac{1}{2}$ |
| 127 $\frac{1}{8}$ | 118 $\frac{1}{2}$ | Penn RR gen 4 $\frac{1}{4}$ s | '81 | 12 | 127 $\frac{1}{8}$ | 127 $\frac{1}{8}$ | 126 $\frac{3}{4}$ | 126 $\frac{3}{4}$ | - $\frac{1}{4}$ |

* Sales in \$1,000.

The price of Goodrich 2 $\frac{3}{4}$ per cent bonds, due in 1965, ranged from a high of \$1,025 per \$1,000 principal value to a low of \$1,002.50 during the period January 2 to November 16, this year. On November 16 the transactions in the bond involved a principal value of \$37,000; the first or opening sale was at \$1,022.50 per bond, which was also the lowest price during the trading day; the highest price at which the bond sold during the trading day was \$1,025; the last sale in the bond was at \$1,025; the closing price of \$1,025 represented an increase of $\frac{1}{2}$ a point over the closing price on the preceding trading day, which was \$1,020.

Over-the-counter market. The following excerpts of over-the-counter market quotations are taken from *The Wall Street Journal*:

OVER-THE-COUNTER MARKET QUOTATIONS

Friday, November 16, This Year

Obtained from National Association of Securities Dealers, Inc., and other sources, but are unofficial. Origin of any quotation furnished on request.

STOCKS

INDUSTRIAL

| | <i>Bid</i> | <i>Asked</i> | <i>Prev. Bid</i> |
|---------------------------|------------------|------------------|------------------|
| Am Optical Co | 44 $\frac{1}{2}$ | 46 $\frac{1}{2}$ | 45 |
| Electrolux Corp | 16 $\frac{1}{4}$ | 17 $\frac{3}{4}$ | 16 $\frac{1}{4}$ |

APPENDIX B

UTILITY STOCKS

| | | | |
|--------------------------|------------------|------------------|------------------|
| Delaware P & L Co com... | 24 | 25 $\frac{1}{2}$ | 24 |
| Hartford Elec Light..... | 67 $\frac{1}{2}$ | 69 $\frac{1}{2}$ | 66 $\frac{3}{4}$ |

INSURANCE COMPANIES

| | | | |
|------------------|------------------|------------------|------------------|
| Aetna Life | 50 $\frac{3}{4}$ | 52 $\frac{3}{4}$ | 50 $\frac{1}{4}$ |
| Camden Fire..... | 23 $\frac{7}{8}$ | 25 $\frac{7}{8}$ | 23 $\frac{5}{8}$ |

BANKS AND TRUST COMPANIES

| | | | | |
|-------------------|--------|------------------|------------------|------------------|
| Chase..... | \$1.40 | 45 $\frac{5}{8}$ | 47 $\frac{5}{8}$ | 46 $\frac{1}{8}$ |
| First Nat N Y ... | 80.00 | 1,940 | 2,000 | 1,940 |

BONDS

NEW YORK CITY

| <i>Rate</i> | <i>Maturity</i> | <i>Bid</i> | <i>Asked</i> | <i>Yield</i> |
|-----------------|-----------------|-------------------|-------------------|--------------|
| 4 $\frac{1}{2}$ | July 1967 | 135 | 137 $\frac{1}{4}$ | 2.30 |
| 4 | May 1959 | 125 $\frac{1}{4}$ | 127 | 1.75 |

Quotations in the over-the-counter market are in terms of bid and asked prices. In the instance of bank stocks, the annual dividend is shown, as for example, \$1.40 for Chase National Bank of New York and \$80.00 for the First National Bank of New York.

APPENDIX C

CUSTOMER'S AGREEMENT

a/c

CUSTOMER'S AGREEMENT—CASH ACCOUNT

I hereby represent that I am over 21 years of age; that I am not connected as an employee, member, or partner of any Security or Commodity Exchange or Member Firm thereof, or any Broker, Firm or Corporation engaged in the business of dealing in securities or commodities. If I become such I hereby agree to notify you in writing immediately.

In the event you fail to receive payment for securities purchased or fail to receive securities sold for my account by the delivery date of said securities, you may, without prior demand for margin and without notice to me of the time and place of sale, sell securities held by you for me or buy in securities of which my account may be short; and no specific notice or demand shall invalidate this waiver.

Notices, demands or communications from you to me, not personally delivered, shall be deemed personally delivered to me and their receipt conceded, either upon proof of the due mailing thereof, or upon proof of the delivery thereof, charges prepaid, to a radio, telegraph or cable company, addressed to me at my last designated address. This agreement and the enforcement thereof shall be governed by the laws of the State of New York.

Citizen U. S. A ?

Yes

No

Signed _____ If answer is No, citizen of what country?
(Not merely initials. If a woman state "Miss" or "Mrs.")

Mailing Address. _____

Firm _____

Nature of Business. _____

If woman and married, state husband's occupation and business connection.

Tel. _____ Date _____

[Reverse Side]

Reference.

Address.

Reference.

Address.

ABC & Co. One Wall Street, New York.

CUSTOMER'S AGREEMENT—MARGIN ACCOUNT

ABC & Company
New York, N. Y.

Dear Sirs:

In consideration of your accepting one or more accounts of the undersigned (whether designated by name, number, or otherwise) and your agreeing to act as brokers for the undersigned in the purchase or sale of securities or commodities, the undersigned agrees as follows:

1. All transactions under this agreement shall be subject to the constitution, rules, regulations, customs and usages of the exchange or market, and its clearing house, if any, where the transactions are executed by you or your agents, and where applicable, to the provisions of the Securities Exchange Act of 1934, the Commodities Exchange Act, and present and future acts amendatory thereof and supplemental thereto, and the rules and regulations of the Federal Securities and Exchange Commission, the Board of Governors of the Federal Reserve System and of the Secretary of Agriculture in so far as they may be applicable.

2. Whenever any statute shall be enacted which shall affect in any manner or be inconsistent with any of the provisions hereof, or whenever any rule or regulation shall be prescribed or promulgated by the New York Stock Exchange, the Federal Securities and Exchange Commission, the Board of Governors of the Federal Reserve System and/or the Secretary of Agriculture which shall affect in any manner to be inconsistent with any of the provisions hereof, the provisions of this agreement so affected shall be deemed modified or superseded, as the case may be, by such statute, rule or regulation, and all other provisions of the agreement and the provisions as so modified or superseded, shall in all respects continue and be in full force and effect.

3. Except as herein otherwise expressly provided, no provision of this agreement shall in any respect be waived, altered, modified or amended unless such waiver, alteration, modification or amendment be committed to writing and signed by a member of your firm.

4. All monies, securities, commodities or other property which you may at any time be carrying for the undersigned or which may at any time be in your possession for any purpose, including safekeeping, shall be subject to a general lien for the discharge of all obligations of the undersigned to you, irrespective of whether or not you have made advances in connection with such securities, commodities or other property, and irrespective of the number of accounts the undersigned may have with you.

5. All securities and commodities or other property, now or hereafter held by you, or carried by you for the undersigned (either individually or jointly with others), or deposited to secure the same, may from time to time and without notice to me be carried in your general loans and may be pledged, repledged, hypothecated or re-hypothecated, separately or in common with other securities and commodities or other property, for the sum due to you thereon or for a greater sum and without retaining in your possession and control for delivery a like amount of similar securities or commodities.

6. Debit balances of the accounts of the undersigned shall be charged with interest, in accordance with your usual custom, and with any increases in rates caused by money market conditions, and with such other charges as you may make to cover your facilities and extra services.

7. You are hereby authorized, in your discretion, should the undersigned die or should you for any reason whatsoever deem it necessary for your protection, to sell any or all of the securities and commodities or other property which may be in your possession, or which you may be carrying for the undersigned (either individually or jointly with others), or to buy in any securities, commodities or other property of which the account or accounts of the undersigned may be short, or cancel any outstanding orders in order to close out the account or accounts of the undersigned in whole or in part or in order to close out any commitment made in behalf of the undersigned. Such sale, purchase or cancellation may be made according to your judgment and may be made, at your discretion, on the exchange or other market where such business is then usually transacted, or at public auction or at private sale, without advertising the same and without notice to the undersigned or to the personal representatives of the undersigned, and without prior tender, demand or call of any kind upon the undersigned or upon the personal representatives of the undersigned, and you may purchase the whole or any part thereof free from any right of redemption, and the undersigned shall remain liable for any deficiency; it being understood that a prior tender, demand or call of any kind from you, or prior notice from you, of the time and place of such sale or purchase shall not be considered a waiver of your right to sell or buy any securities and/or commodities and/or other property held by you, or owed you by the undersigned, at any time as hereinbefore provided.

8. The undersigned will at all times maintain margins for said accounts, as required by you from time to time.

9. The undersigned undertakes, at any time upon your demand, to discharge obligations of the undersigned to you, or, in the event of a closing of any account of the undersigned in whole or in part, to pay you the deficiency, if any, and no oral agreement or instructions to the contrary shall be recognized or enforceable.

10. In case of the sale of any security, commodity, or other property by you at the direction of the undersigned and your inability to deliver the same to the purchaser by reason of failure of the undersigned to supply you therewith, then and in such event, the undersigned authorizes you to borrow any security, commodity, or other property necessary to make delivery thereof, and the undersigned hereby agrees to be responsible for any loss which you may sustain thereby and any premiums which you may be required to pay thereon, and for any loss which you may sustain by reason of your inability to borrow the security, commodity, or other property sold.

11. At any time and from time to time, in your discretion, you may without notice to the undersigned, apply and/or transfer any or all monies, securities,

commodities and/or other property of the undersigned interchangeably between any accounts of the undersigned (other than from Regulated Commodity Accounts).

12. It is understood and agreed that the undersigned, when placing with you any sell order for short account, will designate it as such and hereby authorizes you to mark such order as being "short," and when placing with you any order for long account, will designate it as such and hereby authorizes you to mark such order as being "long." Any sell order which the undersigned shall designate as being for long account as above provided, is for securities then owned by the undersigned and, if such securities are not then deliverable by you from any account of the undersigned, the placing of such order shall constitute a representation by the undersigned that it is impracticable for him then to deliver such securities to you but that he will deliver them as soon as it is possible for him to do so without undue inconvenience or expense.

13. In all transactions between you and the undersigned, the undersigned understands that you are acting as the brokers of the undersigned, except when you disclose to the undersigned in writing at or before the completion of a particular transaction that you are acting, with respect to such transaction, as dealers for your own account or as brokers for some other person.

14. Reports of the execution of orders and statements of the account of the undersigned shall be conclusive if not objected to in writing, the former within two days, and the latter within ten days, after forwarding by you to the undersigned by mail or otherwise.

15. Communications may be sent to the undersigned at the address of the undersigned given below, or at such other address as the undersigned may hereafter give you in writing, and all communications so sent, whether by mail, telegraph, messenger or otherwise, shall be deemed given to the undersigned personally, whether actually received or not.

16. Any controversy between you and the undersigned arising out of or relating to this contract or the breach thereof shall be settled by arbitration, in accordance with the rules, then obtaining, of either the Arbitration Committee of the Chamber of Commerce of the State of New York, or the American Arbitration Association, or the Arbitration Committee of the New York Stock Exchange, as the undersigned may elect. If the undersigned does not make such election by registered mail addressed to you at your main office within five (5) days after receipt of notification from you requesting such election, then the undersigned authorizes you to make such election in behalf of the undersigned. Any arbitration hereunder shall be before at least three arbitrators and the award of the arbitrators, or of a majority of them, shall be final, and judgment upon the award rendered may be entered in any court, state or federal, having jurisdiction.

17. This agreement and its enforcement shall be governed by the laws of the State of New York and its provisions shall be continuous; shall cover individually and collectively all accounts which the undersigned may open or re-open with you, and shall enure to the benefit of your present firm, and any successor firm or firms, irrespective of any change or changes at any time in the personnel thereof, for any cause whatsoever, and of the assigns of your present firm or any successor firm, and shall be binding upon the undersigned, and/or the estate, executors, administrators and assigns of the undersigned.

18. The undersigned represents that he is of full age; that no one except the undersigned has an interest in account or accounts of the undersigned with you; that the undersigned is not an employee of any exchange, or of any corporation of which any exchange owns a majority of the capital stock, or of a member

CUSTOMER'S AGREEMENT

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of any exchange, or of a firm registered on any exchange, or of a bank, trust company, insurance company or of any corporation, firm or individual engaged in the business of dealing, either as broker or as principal, in securities, bills of exchange, acceptances or other forms of commercial paper.

Dated Customer

(City) (State) Address

Witness,

We hereby accept the account, and agree to act as brokers upon the terms and conditions hereinabove stated.

By

APPENDIX D

OPTION CONTRACTS

PUT

This contract must be presented to the Cashier of the firm it is endorsed by before the expiration of the exact time limit.
(It will not be accepted after it has expired and cannot be exercised by telephone.)

New York, 19

For value received the bearer may deliver to the endorser on one day's notice
except last day when notice is not required. shares of the
stock of the at
dollars per share any time in
days from date.

All dividends for which transfer books close during said time go with the stock.

Expires. 19
 M.
 Delivery according to S.E. usage.

CALL

This contract must be presented to the Cashier of the firm it is endorsed by before the expiration of the exact time limit.
(It will not be accepted after it has expired and cannot be exercised by telephone.)

For value received the bearer may "Call" on the endorser on one day's notice except last day when notice is not required _____ shares of the _____ stock of the _____ at _____ dollars per share any time in _____ days from date.

All dividends for which transfer books close during said time go with the stock.

Expires.....19 ...
M.
Delivery according to S.E. usage.

DEALER ADVERTISEMENT

Special Call Options per 100 shares plus tax

| | <i>Price</i> | <i>Expiration Date</i> | <i>Cost</i> |
|--------------------------|-----------------|------------------------|-------------|
| American Zinc | 25 | Jan. 4 | \$300.00 |
| Du Pont | $96\frac{7}{8}$ | Dec. 26 | 475.00 |
| Glenn Martin | $19\frac{1}{8}$ | Jan. 2 | 187.50 |
| Zenith | 70 | Dec. 1 | 350.00 |
| Mo. Kan. T. Com. | $10\frac{1}{2}$ | Feb. 18 | 100.00 |
| Mission Corp. | $31\frac{1}{2}$ | Dec. 10 | 137.50 |
| Dome Mines | $18\frac{1}{8}$ | Jan. 14 | 262.50 |
| Int. Tel. & Tel. | 18 | Mar. 27 | 212.50 |
| Int. Silver | 61 | Dec. 31 | 550.00 |
| Penn R.R. | 20 | 6 mos. | 300.00 |
| Southern Pacific | $63\frac{3}{4}$ | Nov. 19 | 387.50 |

Subject to prior sale or price change
October 4, 1951

APPENDIX E

INVITATION FOR BIDS ON SALE OF SECURITIES

Treasury bills.

Applications for an issue of \$1,000,000,000 of 91-day Treasury bills will be received at Federal Reserve Banks and branches up to 2 P.M. (E.S.T.), Monday, February 16. These bills will be dated February 19 and will mature May 20.

State bonds.

The Comptroller of the State of New York

will sell at his office at Albany, New York

December 11, 1951, at 11:00 o'clock A.M.

(Eastern Standard Time)

State of New York

\$65,000,000

Grade Crossing Elimination (Serial) Bonds

maturing as follows:

\$45,000,000. Dec. 15, 1952-1961

\$20,000,000. Dec. 15, 1952-1971

Grade Crossing Elimination Bonds Maturing December 15, 1952-1961

\$45,000,000 Grade Crossing Elimination Bonds will be issued under the provisions of Section 14 of Article 7 of the Constitution, Chapter 92, Section 14 of the Laws of 1950, as amended by Chapter 286, Section 15, of the Laws of 1950, and Section 59 of the State Finance Law for the construction and reconstruction of State highways and parkways, will be dated December 15, 1951, and will mature \$4,500,000 annually on December 15 in each of the years from 1952 to 1961, both inclusive, interest being payable semi-annually on December 15 and June 15. The Comptroller reserves to the State the privilege of redeeming, at par value and accrued interest, on June 15, 1960, or on any interest payment date thereafter, all of the bonds maturing on December 15, 1961, only, upon not less than thirty nor more than forty days' notice thereof, published in at least two daily newspapers printed in the City of New York and one in the City of Albany. Interest shall cease to accrue on bonds called for redemption from and after the date fixed for the redemption thereof.

Bidders will be required to name the rate of interest which this \$45,000,000 issue of bonds is to bear. Such rate shall be in multiples of one-quarter or one-tenth of one per centum, but no such rate shall exceed four per centum per annum and not more than a single rate of interest shall be named for this issue.

Grade Crossing Elimination Bonds Maturing December 15, 1952-1971

\$20,000,000 Grade Crossing Elimination Bonds will be issued under the provisions of Section 14 of Article 7 of the State Constitution, Chapters 778 and 779 of the Laws of 1940, Chapter 244 of the Laws of 1949, and Section 59 of the State Finance Law for the elimination of railroad crossings at grade, will be dated December 15, 1951, and will mature \$1,000,000 annually on December 15 in each of the years from 1952 to 1971, both inclusive, interest being payable semi-annually on December 15 and June 15.

The Comptroller reserves to the State the privilege of redeeming, at par value and accrued interest, on December 15, 1968, or on any interest payment date thereafter, all of such bonds then outstanding or all of the bonds of a single maturity beginning in the inverse order of their maturity, upon not less than thirty nor more than forty days' notice thereof published in at least two daily newspapers printed in the City of New York and one in the City of Albany. Interest shall cease to accrue on bonds called for redemption from and after the date fixed for the redemption thereof.

Bidders will be required to name the rate or rates of interest which this \$20,000,000 issue of bonds is to bear. Such rate or rates shall be in a multiple or multiples of one-quarter or one-tenth of one per centum, but no such rate shall exceed four per centum per annum. Unless a single rate is bid on all bonds of this issue, no rate included in a bid shall be less than one per centum per annum. Not more than one rate of interest shall be named for any single maturity.

Terms Applicable to Both Issues

Bonds will be issued in coupon form in the denomination of \$1,000, and in registered form in denominations of \$1,000, \$5,000, \$10,000, and \$50,000 at the option of the purchaser.

Bidders may condition their bids upon the award to them of all but no part of the entire \$65,000,000 issue of such bonds, and the highest bidder on the basis of "all or none" will be the one whose bid figures the lowest interest cost to the State after deducting the amount of premium bid, if any.

Principal and interest will be payable in lawful money of the United States of America, at the Bank of the Manhattan Company, New York City. The bonds issued in coupon form may be exchanged for bonds registered as to principal and interest.

The bonds will be general obligations of the State of New York. The full faith and credit of the State of New York will be pledged to the payment of the principal of and interest on the bonds as such principal and interest become due and payable.

No bid will be accepted for less than the par value of the bonds and accrued interest to the date of delivery of the interim certificates, or unless accompanied by a certified check or bank draft upon a solvent bank or trust company of the City of Albany or the City of New York, payable to the order of the "Comptroller of the State of New York," for at least two per cent of the par value of the bonds bid for. No interest will be allowed upon the good faith security.

No bid will be accepted for separate maturities. Bidders shall state clearly in their proposals the amount and price for each \$100 bid for, which will be deemed to include an equal face amount of bonds of each maturity based upon the multiples specified above.

All proposals, together with the good faith security, must be enclosed in a sealed envelope endorsed "Proposal for Bonds" and directed to the "Comptroller of the State of New York, Governor Alfred E. Smith State Office Building, Albany 1, N. Y.," and be delivered or presented not later than 11 o'clock A.M., December 11, 1951.

Interim certificates will be issued pending the delivery of definitive bonds. Such certificates will be ready for delivery on or about December 18, 1951.

The unqualified approving opinion of the Attorney-General of the State of New York as to the legality of such bonds and interim certificates and the regularity of their issue, will be furnished to the successful bidder upon delivery of the interim certificates to him.

The successful bidder or bidders will be required to pay for the bonds upon delivery of the interim certificates, by deposit in the Bank of the Manhattan Company in the City of New York.

The Comptroller reserves the right to reject any or all bids.

Circulars descriptive of the binds will be mailed upon application to

J. RAYMOND McGOVERN, State Comptroller, Albany 1, N. Y.

Dated: December 3, 1951.

Municipal bonds.

CITY OF DETROIT, MICHIGAN

Sealed bids for the purchase of Public Utility Water Refunding Bonds, Series "R" of the City of Detroit, Wayne County, Michigan, of the face amount of \$441,000 will be received by the undersigned at the office of City Controller,

2008 Water Board Building, 735 Randolph Street, Detroit, Wayne County, Michigan, until Ten (10) o'clock A.M., Eastern Standard Time, on

June 3, 1947,

at which time and place bids will be opened. They will be considered by the Common Council, the legislative body of the City of Detroit, at the Council Chamber in the City Hall, Detroit, Wayne County, Michigan, on the date above specified, at 11:00 o'clock A.M., Eastern Standard Time.

The bonds will be dated December 15, 1946; will mature serially without option of prior payment \$32,000 December 15, 1956, \$42,000 December 15, 1957, \$52,000 December 15, 1958, \$63,000 December 15, 1959, \$73,000 December 15, 1960, \$84,000 December 15, 1961, \$95,000 December 15, 1962; will be of the denomination of \$1,000 each, numbered consecutively from 66 to 97, 185 to 226, 336 to 387, 519 to 581, 735 to 807, 983 to 1066, 1261 to 1355 all inclusive; will be issued in coupon form or in registered form, and if issued in coupon form will be exchanged for bonds in registered form at any time upon application of the owner; and will bear interest from June 15, 1947 at a rate, or rates, not exceeding 4% per annum, expressed in multiples of $\frac{1}{4}$ of 1%, payable December 15, 1947, and semi-annually thereafter on December 15 and June 15th. Both principal and interest will be payable at the current official bank of the City of Detroit in the City of New York, N. Y., or at the office of the City Treasurer in the City of Detroit, at the option of the holder. The bonds shall be awarded to the bidder whose bid produces the lowest interest cost to the City after deducting the premium offered, if any. In determining the net interest cost, interest on premium will not be considered as deductible and interest on bonds will be computed from June 3, 1947, to the respective maturity dates.

No proposal for less than par nor for less than all of the bonds will be considered.

The City is authorized and required by law to levy upon all the taxable property therein, such ad valorem taxes as may be necessary to pay the bonds and interest thereon, without limitation as to rate or amount.

Envelopes containing the bids should be plainly marked "Proposal for purchase of City of Detroit Bonds."

A certified or cashier's check in the amount of 2% of the total par value of the bonds drawn upon any national bank in the United States or any State Bank in the City of Detroit, payable to the order of the City of Detroit, to be retained by the City of Detroit, as stipulated damages in the event of non-performance of any proposal accepted, must accompany each bid as a guarantee of good faith on the part of the bidder. No interest will be allowed on the good faith checks. Bids shall be conditioned upon the unqualified opinion of Wood, King and Dawson, attorneys of New York City, New York, approving the legality of the bonds. The cost of such opinion shall be paid by the City.

The City shall pay the cost of printing and delivery of the bonds. The bonds will be delivered at the office of the City Treasurer of the City of Detroit, or in New York City, New York, or in Chicago, Illinois, upon payment of amount named in proposal and of interest on principal accrued to date of delivery. Payment to be made in Federal Reserve Funds in Detroit.

The right is reserved to reject any and all bids.

The bonds are exempt from all taxation in the State of Michigan.

Any bidder will be furnished, upon request, a report of the essential facts pertaining to the financial condition of the City of Detroit.

Railroad equipment trust-lease.**GREAT NORTHERN RAILWAY
EQUIPMENT TRUST OF 1951**

GREAT NORTHERN RAILWAY COMPANY has invited bids for the purchase of the entire amount of \$10,740,000 principal amount of Equipment Trust Certificates, under Great Northern Railway Equipment Trust of 1951, to mature in thirty (30) equal semi-annual installments beginning on October 1, 1951, and ending on April 1, 1966, and to be secured by new railroad equipment costing not less than \$13,447,500. Such new railroad equipment will consist of 1,000 box cars, 250 gondola cars, 100 covered hopper cars, 30 1,500-H.P. Diesel-electric road-switching locomotives, 7 1,200-H.P. Diesel-electric switching locomotives and 2 800-H.P. Diesel-electric switching locomotives, all as more fully described in the Request for Bids referred to below.

All bids must be submitted in accordance with the terms and provisions of said Request for Bids and must be received at the office of the undersigned referred to below at or before 12 o'clock Noon, Eastern Standard Time, on March 22, 1951. Each bid must be at a specified price, which must be not less than 99% of the principal amount, plus accrued dividends from April 1, 1951, to the date of delivery and shall state an annual dividend rate to be borne by the Certificates in a multiple of one-eighth of one per cent.

Copies of the Request for Bids, Form of Bid, and tentative forms of Agreement and Lease may be obtained upon request at the office of the undersigned, Room 905, 2 Wall Street, New York 5, New York.

Each bidder must furnish with the bid a certified or bank cashier's check or checks, payable in New York funds, in an aggregate amount equal to two per cent of the principal amount of the Equipment Trust Certificates, such checks to be returned, except to the successful bidder whose check or checks will either be applied on the subscription price or returned to the successful bidder upon payment of the full subscription price, as the parties may at the time agree upon.

Railroad equipment trust-conditional sale.**NORTHERN PACIFIC RAILWAY COMPANY**

Northern Pacific Railway Company hereby invites bids for the lowest interest rate at which the bidder will provide \$1,500,000, as hereinafter stipulated, to finance the purchase and acquisition from Pacific Car and Foundry Company, under a conditional sale agreement, of 250 forty-two-foot eighty thousand-pound capacity steel sheathed wood-lined standard refrigerator cars (high tensile steel design) Class R-40-23, with eighty thousand-pound capacity trucks, convertible ice tanks, air circulating fans and one-wear wrought steel wheels costing in the aggregate approximately \$1,948,250. Under the terms of the conditional sale agreement, the Railway Company will pay to the Seller (Pacific Car and Foundry Company), upon the acceptance of each car, an amount equal to the excess of the purchase price thereof over the sum of \$6,000, and will pay in ninety-six equal monthly installments on the 15th day of each month, commencing September 15, 1947, the remaining \$1,500,000 of the total purchase price, with interest on unpaid balances thereof from August 15, 1947, at the interest rate to be fixed by the accepted bid. Such agreement will reserve in the Seller named therein, or in its assignee or assignees, title to all of the cars covered thereby until the purchase price and interest thereon have been fully paid by the Railway Company. The accepted bidder will become the assignee of the Seller under an Assignment Agreement, which will (1) require the assignee to pay the Seller, upon acceptance of each car by the Railway Company, the sum of \$6,000, (2) assign and transfer to the assignee the interest of the Seller in said Conditional Sale Agreement and title to the cars, and (3) entitle assignee to receive the monthly payments of principals and interest from the Railway Company under said Agreement.

Public utility-bonds.

LONG ISLAND LIGHTING COMPANY

Public Invitation for Bids
for the Purchase of
First Mortgage Bonds

Long Island Lighting Company hereby invites bids for the purchase as a whole from it of \$25,000,000 principal amount of its First Mortgage Bonds, Series D, % Due 1976. Bids will be received at City Bank Farmers Trust Company, 8th Floor Conference Room, 20 Exchange Place, New York, N. Y., at 11:00 A. M., E. S. T., on December 12, 1951. Copies of the Statement of Terms and Conditions Relating to Bids, the Registration Statement, the Prospectus, and other related documents, are available and may be examined at the office of the Company, 250 Old Country Rd., Mineola, N. Y., and at Room 1854, 2 Rector St., New York, N. Y. Bids need be considered only from persons who shall have received copies of the Prospectus and only if made in accordance with the terms and conditions stated in the Statement of Terms and Conditions Relating to Bids.

Officers and representatives of and counsel for the Company, representatives of the independent public accountants who have certified the financial statements in the Registration Statement, and counsel for the prospective purchasers will be available at City Bank Farmers Trust Company, 5th Floor, 20 Exchange Place, New York, N. Y., on December 6, 1951 at 2:30 P. M., E. S. T., to meet with prospective bidders to review the information in the Registration Statement and provisions of the Statement of Terms and Conditions Relating to Bids. All prospective bidders are invited to be present.

LONG ISLAND LIGHTING COMPANY

By: EDWARD F. BARRETT, *President*

Mineola, New York

December 3, 1951.

Public utility-preferred stock.

SOUTHERN CALIFORNIA EDISON COMPANY

Southern California Edison Company, a California corporation (hereinafter called the "Company"), hereby invites bids, subject to the terms and conditions herein stated or referred to, for the purchase from it of 800,000 shares of its Cumulative Preferred Stock, % Series, of the par value of \$25 per share (hereinafter called the "Preferred Stock"). Copies of the Statement of Terms and Conditions Relating to Bids for the purchase of the Preferred Stock, and of other relevant documents referred to in the Statement of Terms and Conditions Relating to Bids may be examined, and copies of certain of such documents may be obtained, at the office of the Company, 601 West Fifth Street, Los Angeles 53, California.

Sealed written bids will be received by the Company at the office of its President, 601 West Fifth Street, Los Angeles 53, California, up to 9:00 A.M., Pacific Standard Time, on December 9, 1947 or on such later date as may be fixed by the Company as provided in the Statement of Terms and Conditions Relating to Bids.

Prior to the acceptance of any bid, the bidder or bidders will be furnished with a copy of the official Prospectus relating to the Preferred Stock. Bids will be considered only from persons who have received copies of the Prospectus and only if made in accordance with and subject to the Statement of Terms and Conditions Relating to Bids.

The Company hereby further advises prospective bidders that representatives of the Company, counsel for the Company, counsel for the possible purchasers, and a representative of Arthur Anderson & Co., will be present at the office of the Company, 601 West Fifth Street, Los Angeles 53, California, on December 5, 1947, at 10 A.M., Pacific Standard Time, to meet with prospective bidders for the purpose of reviewing with them the information contained in the Registration Statement, in the Prospectus and in the Statement of Terms and Conditions Relating to Bids.

APPENDIX F

REDEMPTION NOTICES

Bond redemption-total.

NOTICE IS HEREBY GIVEN, pursuant to the provisions of Section 1 of Article Four of the Indenture of Mortgage, dated as of March 1, 1936, from Jones & Laughlin Steel Corporation and Certain Subsidiary Companies to the Union Trust Company of Pittsburgh and E. Donald Hayes, as Trustees, as supplemented, under which Indenture of Mortgage, as supplemented, City Bank Farmers Trust Company and Stewart C. Pratt are Successor Trustees, that Jones & Laughlin Steel Corporation has elected to pay and redeem on December 26, 1947, all its First Mortgage Bonds—Series C, $3\frac{1}{4}\%$, due January 1, 1961.

Holders of such Bonds are further notified that such Bonds are required to be presented for payment and redemption on December 26, 1947, together with all appurtenant coupons maturing on and after such redemption date, at the principal office of City Bank Farmers Trust Company, in the Borough of Manhattan, in the City of New York, in the State of New York, or, at the option of the holder, at the principal office of Mellon National Bank and Trust Company, in the City of Pittsburgh, in the Commonwealth of Pennsylvania, or, at the option of the holder, at the principal office of Continental Illinois National Bank and Trust Company of Chicago, in the City of Chicago, in the State of Illinois.

Upon presentation and surrender of such Bonds, together with all coupons maturing January 1, 1948, and thereafter, at the principal office of City Bank Farmers Trust Company, in the Borough of Manhattan, in the City of New York, in the State of New York, or at the principal office of Mellon National Bank and Trust Company, in the City of Pittsburgh, in the Commonwealth of Pennsylvania, or at the principal office of Continental Illinois National Bank and Trust Company of Chicago, in the City of Chicago, in the State of Illinois, there will be paid in lawful money of the United States, on each of such Bonds, the principal amount thereof, together with unpaid accrued interest thereon to said date of redemption, plus a premium of $2\frac{1}{2}\%$ of such principal amount. Interest on all such Bonds shall cease to accrue on December 26, 1947. Any interest coupons maturing after that date shall be null and void.

Prepayment Notice

Holders of Jones & Laughlin Steel Corporation First Mortgage Bonds—Series C, $3\frac{1}{4}\%$, due January 1, 1961, may, at their option, surrender said Bonds on or after November 28, 1947, and prior to December 26, 1947, at the places and in the manner hereinabove set forth, and receive the full redemption price of said Bonds, including interest to December 26, 1947.

Bond redemption-partial.

Notice is hereby given that pursuant to the provisions of the Indenture dated as of September 1, 1946 between The Pittston Company and Manufacturers Trust Company, as Trustee, the said Trustee has selected by lot for redemption on July 1, 1947 out of moneys now in the income sinking fund \$224,000 principal amount of Bonds outstanding under said Indenture; that such Bonds or, in the case of registered Bonds without coupons, the respective portions of principal thereof specified below, will be redeemed and become due and payable on July 1, 1947 at the redemption price hereinafter mentioned.

The temporary coupon Bonds to be redeemed, each of the denomination of \$1,000, bear the following serial numbers each prefixed by the letters TM:

| | | | | | | | | | | |
|----|-----|-----|-----|-----|------|------|------|------|------|------|
| 2 | 116 | 253 | 523 | 726 | 1044 | 1308 | 1506 | 1753 | 1974 | 2102 |
| 4 | 121 | 285 | 571 | 745 | 1052 | 1319 | 1532 | 1769 | 1986 | 2105 |
| 18 | 154 | 307 | 641 | 855 | 1192 | 1394 | 1540 | 1842 | 2045 | 2191 |
| 30 | 169 | 361 | 673 | 892 | 1238 | 1404 | 1623 | 1910 | 2060 | 2193 |
| 35 | 206 | 369 | 694 | 909 | 1239 | 1476 | 1680 | 1948 | 2073 | 2194 |
| 73 | 221 | 456 | 722 | 970 | 1281 | 1490 | 1709 | 1950 | 2099 | |

The serial numbers of the registered Bonds without coupons and the respective portions of principal thereof to be redeemed are as follows:

| <i>Number</i> | <i>Portions of Principal to be redeemed</i> |
|---------------|---|
| R 1 | \$115,000 |
| R 2 | 44,000 |

On July 1, 1947 there will become due and payable upon each coupon Bond and upon the registered Bonds portions of which have been designated for redemption at the principal office of Manufacturers Trust Company, 55 Broad Street, New York, New York, one hundred four per cent (104%) of the principal amount of Bonds so drawn together with all interest accrued and unpaid thereon to said date, upon presentation and surrender of coupon Bonds with the September 1, 1947 coupon attached and upon presentation of the fully registered Bonds for endorsement thereon of the portion being redeemed. From and after July 1, 1947 interest on the coupon Bonds and the portions of the registered bonds designated for redemption will cease to accrue.

Prepayment of bonds.

Notice of Prepayment
P. LORILLARD COMPANY
Five Per Cent. Gold Bonds
Maturing August 1, 1951

Issued under Indenture dated December 1, 1911, as supplemented
To Holders of above-described Bonds:

Notice is hereby given that upon presentation and surrender of said Bonds, accompanied by coupon maturing on August 1, 1951, thereto appertaining and requisite ownership certificates, to the Paying Agent, Central Hanover Bank and Trust Company, at its office, 70 Broadway, Borough of Manhattan, City and State of New York, the entire principal amount of said Bonds and interest accruing to August 1, 1951 will be paid, sufficient funds having been deposited by the undersigned with said Paying Agent for the purpose of paying said Bonds and the interest accruing thereon to the maturity thereof. Registered Bonds, when payment to anyone other than the registered owner is desired, must be accompanied by proper instruments of assignment and transfer.

Preferred stock redemption.

You are hereby notified that Aluminum Company of America has elected to redeem all shares of its Six Per Cent Cumulative Preferred Stock on March 24, 1947, at \$110 per share, plus the dividend thereon accrued to the redemption date in the amount of \$1.38 per share. Upon presentation and surrender of a certificate or certificates representing such shares at the Union Trust Office of Mellon National Bank and Trust Company in the City of Pittsburgh, Pennsylvania, which has been designated as the office of the Company for the purpose, on or after March 24, 1947, the holders thereof will be entitled to receive \$111.38 for each share called for redemption.

Transfers of shares of Six Per Cent Cumulative Preferred Stock may be made on the books of the Company prior to the close of business on March 24, 1947, at which time the transfer books for such stock will be permanently closed.

From and after March 24, 1947, no dividends will accrue on the shares of Six Per Cent Cumulative Preferred Stock so called for redemption, notwithstanding that any certificate therefor shall not have been surrendered for cancellation, and all rights with respect to such shares shall forthwith cease and terminate, except only the right of the holders thereof to receive upon surrender of certificates therefor the amount payable upon redemption thereof but without interest.

APPENDIX G

MISCELLANEOUS ANNOUNCEMENTS

Exchange of temporary for definitive bonds.

Notice is hereby given to all holders of Caterpillar Tractor Co. Ten-Year 2% Debentures, dated May 1, 1946 and due May 1, 1956, that definitive Debentures have been engraved and are now ready for delivery to holders of temporary Debentures, upon surrender by such holders of their temporary Debentures of like principal amount.

The exchange may be made at the office of the Trustee, The Bank of California, National Association, Corporate Trust Department, 400 California Street, San Francisco, California, or at the principal office of The Chase National Bank of the City of New York, 11 Broad Street, in the Borough of Manhattan, City and State of New York.

Dividend declaration.

Notice is hereby given that the Board of Directors of Safeway Stores, Incorporated, on June 6, 1947, declared quarterly dividends of 25c per share on the Company's \$5 Par Value Common Stock Payable July 1, 1947, to holders of such stock of record at the close of business June 19, 1947, and \$1.25 per share on the Company's 5% Preferred Stock, payable July 1, 1947, to holders of such stock of record at the close of business June 19, 1947.

Dealer advertisements.

We offer, subject to prior sale:

| | <i>Approximate Current Yield</i> |
|--|--------------------------------------|
| 100 shs. Brooklyn Trust Co..... | 3.70% |
| 100 shs. J. P. Morgan & Co., Inc..... | 2.40 |
| 100 shs. U. S. Trust Co..... | 4.30 |
| 25 shs. 5th Avenue Bank..... | 2.30 |
| 10 shs. Union Trust Co. of Pittsburgh..... | 1.90 |
| 5 shs. Kings County Trust Co..... | 4.00 |

Bid Wanted

10,000 shares Wisconsin Central Railroad Preferred Stock
Delivery in New York against New York funds

We are making an active trading market in
Cannon Mills Company
Class B Common Stock
(unlisted)

The Class B shares are being distributed today as a 100% stock dividend on the Company's outstanding Common Stock.

Buying and selling inquiries are invited.

Newspaper prospectus.

New Issue

\$10,740,000

GREAT NORTHERN RAILWAY EQUIPMENT TRUST OF 1951

2 $\frac{3}{8}$ % Equipment Trust Certificates

To be dated April 1, 1951. To mature \$358,000 each April 1 and October 1 from October 1, 1951 to April 1, 1966

*Issued under the Philadelphia Plan with
20% original cash equity*

MATURITIES AND YIELDS

| | | | | | |
|--------------|-------|--------------|--------|--------------|--------|
| Oct. 1, 1951 | 2.00% | Oct. 1, 1956 | 2.625% | Oct. 1, 1961 | 2.875% |
| Apr. 1, 1952 | 2.15 | Apr. 1, 1957 | 2.65 | Apr. 1, 1962 | 2.90 |
| Oct. 1, 1952 | 2.25 | Oct. 1, 1957 | 2.675 | Oct. 1, 1962 | 2.90 |
| Apr. 1, 1953 | 2.35 | Apr. 1, 1958 | 2.70 | Apr. 1, 1963 | 2.925 |
| Oct. 1, 1953 | 2.40 | Oct. 1, 1958 | 2.725 | Oct. 1, 1963 | 2.925 |
| Apr. 1, 1954 | 2.45 | Apr. 1, 1959 | 2.75 | Apr. 1, 1964 | 2.95 |
| Oct. 1, 1954 | 2.50 | Oct. 1, 1959 | 2.775 | Oct. 1, 1964 | 2.95 |
| Apr. 1, 1955 | 2.55 | Apr. 1, 1960 | 2.80 | Apr. 1, 1965 | 2.95 |
| Oct. 1, 1955 | 2.575 | Oct. 1, 1960 | 2.825 | Oct. 1, 1965 | 2.95 |
| Apr. 1, 1956 | 2.60 | Apr. 1, 1961 | 2.85 | Apr. 1, 1966 | 2.95 |

These certificates are offered subject to prior sale, when, as and if issued and received by us, subject to approval of the Interstate Commerce Commission.

SALOMON BROS. & HUTZLER

DREXEL & Co.

UNION SECURITIES CORPORATION

STROUD & COMPANY

Incorporated

March 29, 1951.

APPENDIX H

FINANCIAL STATEMENTS FOR ANALYSIS

Railroad.

Income Statement (000)

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------------|------------------|------------------|-------------------|
| Operating revenues | \$268,175 | \$242,155 | \$211,118 |
| Operating expenses. | 202,035 | 184,150 | 168,229 |
| Net railway operating revenues . . . | 66,140 | 58,005 | 42,889 |
| Taxes | 33,653 | 30,478 | 22,559 |
| Operating income. | 32,487 | 27,527 | 20,330 |
| Net rents—debit. | 2,717 | 3,208 | 2,440 |
| Net railway operating income. . . | 29,770 | 24,319 | 17,890 |
| Other income. | 1,623 | 1,574 | 1,594 |
| Total income. | 31,393 | 25,893 | 19,484 |
| Miscellaneous deductions. | 100 | 104 | 626 |
| Income—available for fixed charges.. | 31,293 | 25,789 | 18,858 |
| Fixed charges. | 10,344 | 10,749 | 11,395 |
| Net income. | \$ 20,949 | \$ 15,040 | \$ 7,463 |

Balance Sheet (000)

Assets

| | | | |
|--|-----------|-----------|-----------|
| Investments: | | | |
| Road and equipment | \$685,062 | \$669,293 | \$659,508 |
| Improvements on leased property.. | 844 | 844 | 849 |
| Total transportation property. . . | 685,906 | 670,137 | 660,357 |
| Acquisition adjustment. | 9,635 | 9,635 | 7,457 |
| Donations and grants | 3,049 | 2,875 | 2,752 |
| Net total. | 673,222 | 657,627 | 650,148 |
| Depreciation—road. | 24,690 | 21,838 | 18,898 |
| Depreciation—equipment. | 139,939 | 136,760 | 133,440 |
| Amortization—special road. | 2,314 | 2,352 | 2,359 |
| Amortization—special equipment. . . | 19,402 | 19,331 | 19,284 |
| Net investment. | 486,877 | 477,346 | 476,167 |
| Capital and other reserve funds. . . . | 6,787 | 2,601 | 2,278 |
| Miscellaneous physical property. . . . | 4,910 | 4,932 | 4,824 |

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Investment in affiliates. | 10,197 | 10,115 | 9,486 |
| Investment in non-affiliates.. . . . | 3,839 | 3,872 | 3,963 |
| Total investments... | 512,610 | 498,866 | 496,718 |
| Current assets: | | | |
| Cash. | 19,850 | 16,839 | 13,121 |
| Temporary cash investments | 60,094 | 54,664 | 53,466 |
| Materials & supplies.... | 23,078 | 20,180 | 19,694 |
| Miscellaneous..... | 19,713 | 17,076 | 14,972 |
| Total current assets | 122,735 | 108,759 | 101,253 |
| Deferred assets: | | | |
| Working fund advances | 59 | 100 | 58 |
| Other deferred assets. | 122 | 782 | 873 |
| Total deferred assets. | 181 | 882 | 931 |
| Unadjusted debits: | | | |
| Prepayments | 54 | 80 | 48 |
| Discount on funded debt | 2,217 | 2,195 | 2,358 |
| Other unadjusted debits | 2,755 | 2,707 | 1,080 |
| Total unadjusted debits | 5,026 | 4,982 | 3,486 |
| Total assets. | \$640,552 | \$613,489 | \$602,388 |
| <i>Liabilities</i> | | | |
| Funded debt | \$233,987 | \$229,596 | \$241,874 |
| Current liabilities. | 74,921 | 69,430 | 59,586 |
| Deferred liabilities. | 2,754 | 2,551 | 2,464 |
| Unadjusted credits. | 20,409 | 22,202 | 21,731 |
| Capital stock: | | | |
| Preferred, Series A... | 18,646 | 18,646 | 18,646 |
| Common... | 135,799 | 135,799 | 135,799 |
| Total capital stock | 154,445 | 154,445 | 154,445 |
| Premium on capital stock.... . . . | 139 | 139 | 139 |
| Surplus: | | | |
| Unearned | 268 | 259 | 248 |
| Earned—appropriated | 7,894 | 7,894 | 7,894 |
| Earned—unappropriated..... . . | 144,403 | 125,475 | 112,510 |
| Total surplus | 152,565 | 133,628 | 120,652 |
| Excess of inter-company liabilities over assets eliminated..... | 1,332 | 1,498 | 1,497 |
| Total liabilities. | \$640,552 | \$613,489 | \$602,388 |

Notes to Financial Statements

(1) Operating revenues: (000)

| | | | |
|----------------------------|-----------|-----------|-----------|
| Freight | \$213,973 | \$191,740 | \$160,227 |
| Passenger..... | 26,535 | 26,010 | 31,390 |
| Mail..... | 5,020 | 4,462 | 3,122 |
| Express. | 3,454 | 2,831 | 2,399 |
| Miscellaneous..... | 19,193 | 17,112 | 13,980 |
| Total. | \$268,175 | \$242,155 | \$211,118 |

(2) Operating expenses: (000)

| | | | |
|---------------------------------|--------|-----------|-----------|
| Maintenance—way & structures \$ | 43,444 | \$ 39,623 | \$ 36,488 |
| Maintenance—equipment..... | 45,505 | 41,826 | 36,477 |
| Traffic..... | 5,254 | 4,260 | 3,908 |

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------------------|------------------|------------------|-------------------|
| Transportation | 96,710 | 87,864 | 80,796 |
| Miscellaneous | 11,122 | 10,577 | 10,560 |
| Total | <u>\$202,035</u> | <u>\$184,150</u> | <u>\$168,229</u> |
| (3) Taxes: (000) | | | |
| State and county | \$ 11,381 | \$ 10,482 | \$ 8,202 |
| Federal: | | | |
| Unemployment | 592 | 3,412 | 3,160 |
| Retirement | 6,974 | 6,542 | 3,687 |
| Income | 14,297 | 9,702 | 7,150 |
| Others | 409 | 340 | 360 |
| Total | <u>\$ 33,653</u> | <u>\$ 30,478</u> | <u>\$ 22,559</u> |
| (4) Equipment & joint facility rents: | | | |
| (000) | | | |
| Equipment rent income | \$ 500 | \$ 553 | \$ 667 |
| Joint facility rent income | 2,209 | 2,021 | 2,064 |
| | <u>2,709</u> | <u>2,574</u> | <u>2,731</u> |
| Equipment rent payable | 3,770 | 3,944 | 3,358 |
| Joint facility rent payable | 1,656 | 1,838 | 1,813 |
| | <u>5,426</u> | <u>5,782</u> | <u>5,171</u> |
| Net rents—debit | <u>\$ 2,717</u> | <u>\$ 3,208</u> | <u>\$ 2,440</u> |
| (5) Other income: (000) | | | |
| Rent income | \$ 744 | \$ 803 | \$ 780 |
| Miscellaneous non-operating | | | |
| property | 76 | 47 | 38 |
| Dividend income | 65 | 37 | 14 |
| Income from funded securities | 59 | 58 | 54 |
| Income from unfunded secur- | | | |
| ities | 599 | 557 | 608 |
| Miscellaneous | 80 | 72 | 100 |
| Total | <u>\$ 1,623</u> | <u>\$ 1,574</u> | <u>\$ 1,594</u> |
| (6) Fixed charges: (000) | | | |
| Rent for leased road & equip- | | | |
| ment | \$ 744 | \$ 744 | \$ 744 |
| Interest on funded debt | 9,362 | 9,802 | 10,425 |
| Interest on unfunded debt | 35 | 15 | 25 |
| Amortization—discount on | | | |
| funded debt | 203 | 188 | 201 |
| Total | <u>\$ 10,344</u> | <u>\$ 10,749</u> | <u>\$ 11,395</u> |
| (7) Operating statistics: | | | |
| Tons of revenue freight carried | | | |
| (000) | 72,857 | 72,119 | 69,545 |
| Ton-miles revenue freight | | | |
| (000,000) | 19,061 | 19,330 | 18,297 |
| Average distance hauled per | | | |
| ton (miles) | 261.62 | 268.03 | 263.10 |
| Average revenue per ton-mile | | | |
| (cents) | 1.123 | 0.992 | 0.876 |
| Revenue passengers carried | | | |
| (000) | 48,387 | 52,148 | 54,186 |
| Revenue passengers carried one | | | |
| mile (000,000) | 1,321 | 1,407 | 1,677 |

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Average distance hauled per passenger (miles)..... | 27.30 | 26.99 | 30.95 |
| Average revenue per passenger-mile (cents)..... | 2.009 | 1.848 | 1.871 |
| Average mileage operated. . . | 6,563 | 6,582 | 6,593 |
| Revenue train-miles (000) . . | 28,423 | 29,034 | 28,148 |
| (8) Freight traffic (tonnage): % | | | |
| Agriculture. | 13.07 | 14.15 | 14.42 |
| Animal | 1.88 | 2.28 | 2.19 |
| Mines..... | 47.14 | 45.02 | 45.49 |
| Forests..... | 9.71 | 10.27 | 11.02 |
| Manufactures & miscellaneous. | 26.72 | 26.54 | 24.92 |
| L.C.L..... | 1.48 | 1.74 | 1.96 |
| Total..... | 100.00% | 100.00% | 100.00% |
| (9) Freight traffic (revenue): % | | | |
| Agriculture..... | 16.0 | 17.6 | 18.5 |
| Animal | 5.1 | 5.6 | 5.1 |
| Mines..... | 23.5 | 22.3 | 22.6 |
| Forests..... | 8.1 | 8.5 | 9.5 |
| Manufactures & miscellaneous. | 40.0 | 38.1 | 35.6 |
| L.C.L.... | 7.3 | 7.9 | 8.7 |
| Total..... | 100.0% | 100.0% | 100.0% |
| (10) Maintenance—way & structures (000) | | | |
| Maintenance. | \$ 39,680 | \$ 35,940 | \$ 32,820 |
| Depreciation..... | 3,764 | 3,683 | 3,668 |
| Total..... | \$ 43,444 | \$ 39,623 | \$ 36,488 |
| Maintenance—equipment (000) | | | |
| Maintenance. | 37,617 | 34,289 | 29,303 |
| Depreciation.. | 7,888 | 7,537 | 7,174 |
| Total..... | \$ 45,505 | \$ 41,826 | \$ 36,477 |
| (11) Changes in transportation property: (000) | | | |
| Road: | | | |
| Expenditures..... | \$ 4,873 | \$ 4,945 | \$ 4,115 |
| Retirements..... | 2,460 | 2,154 | 1,456 |
| Net..... | \$ 2,413 | \$ 2,791 | \$ 2,659 |
| Equipment: | | | |
| Expenditures..... | \$ 18,768 | \$ 12,637 | \$ 9,528 |
| Retirements..... | 5,412 | 5,643 | 4,374 |
| Net..... | \$ 13,356 | \$ 6,994 | \$ 5,154 |
| Total..... | \$ 15,769 | \$ 9,785 | \$ 7,813 |
| (12) Equipment: (Dec. 31) number | | | |
| Locomotives:..... | 1,300 | 1,324 | 1,364 |
| Steam..... | 1,223 | 1,250 | 1,288 |
| Diesel..... | 77 | 74 | 76 |
| Passenger cars..... | 1,148 | 1,157 | 1,161 |
| Freight cars... | 51,683 | 49,585 | 48,582 |
| (13) Investment in affiliates: (000) | | | |
| Stocks..... | \$ 5,568 | \$ 5,568 | \$ 5,083 |
| Notes.. | 1,766 | 1,766 | 1,766 |
| Advances... | 2,863 | 2,781 | 2,637 |

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------------------------|------------------|------------------|-------------------|
| (14) Capital stock: | | | |
| Preferred Series A: | | | |
| (non-cumulative) | | | |
| Shares authorized (000) | 500 | 500 | 500 |
| Shares outstanding (000) | 186 | 186 | 186 |
| Par value | \$100 | \$100 | \$100 |
| Dividend rate | 6% | 6% | 6% |
| Dividend paid | \$6 | — | — |
| Average price | 76 | 51 | 63 |
| Common: | | | |
| Shares authorized (000) | 1,544 | 1,544 | 1,544 |
| Shares outstanding (000) | 1,358 | 1,358 | 1,358 |
| Par value | \$100 | \$100 | \$100 |
| Dividend | — | — | — |
| Average price | 35 | 25 | 32 |

Public utility (hydro-electric).

Income Statement
(000)

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Operating revenues | \$ 22,074 | \$ 20,484 | \$ 18,651 |
| Operating revenue deductions | 14,397 | 12,808 | 11,475 |
| Net operating revenues | <u>7,677</u> | <u>7,676</u> | <u>7,176</u> |
| Other income (net) | 67 | 71 | 52 |
| Gross income | <u>7,744</u> | <u>7,747</u> | <u>7,228</u> |
| Fixed charges | 1,084 | 1,148 | 1,449 |
| Net income | <u>\$ 6,660</u> | <u>\$ 6,599</u> | <u>\$ 5,779</u> |

Balance Sheet
(000)

| | | | |
|--|------------------|------------------|------------------|
| <i>Assets</i> | | | |
| Utility plant | \$128,599 | \$122,760 | \$118,195 |
| Investment and fund accounts | 1,139 | 961 | 1,002 |
| Current and accrued assets | 4,892 | 8,827 | 8,769 |
| Deferred debits | 84 | 77 | 147 |
| Capital stock expense | 342 | 342 | 342 |
| Total assets | <u>\$135,056</u> | <u>\$132,967</u> | <u>\$128,455</u> |
| <i>Liabilities</i> | | | |
| Long-term debt | \$ 39,188 | \$ 39,200 | \$ 39,600 |
| Current and accrued liabilities | 7,312 | 9,430 | 8,866 |
| Reserves | 39,444 | 39,195 | 38,049 |
| Deferred credits | 216 | 168 | 140 |
| Contributions in aid of construction | 2,040 | 1,474 | 959 |
| Capital stock: | | | |
| Preferred | \$ 15,959 | \$ 15,959 | \$ 15,959 |
| Common | 20,700 | 20,700 | 20,700 |
| Total capital stock | <u>36,659</u> | <u>36,659</u> | <u>36,659</u> |
| Surplus: | | | |
| Capital | 999 | — | — |
| Earned | 9,198 | 6,841 | 4,182 |
| Total surplus | <u>10,197</u> | <u>6,841</u> | <u>4,182</u> |
| Total liabilities | <u>\$135,056</u> | <u>\$132,967</u> | <u>\$128,455</u> |

Notes to Financial Statements

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| (1) Operating revenues: (000) | | | |
| Electric | \$17,342 | \$16,126 | \$14,660 |
| Natural gas..... | 4,370 | 4,016 | 3,674 |
| Water..... | 222 | 210 | 317 |
| Steam heat..... | 140 | 132 | (a) |
| Total operating revenues .. | \$22,074 | \$20,484 | \$18,651 |
| (a) Water and steam heat not reported separately. | | | |
| (2) Electric customers: % | | | |
| Residential..... | 84.9 | 84.8 | 84.4 |
| Commercial..... | 13.0 | 13.3 | 14.6 |
| Industrial..... | 1.8 | 1.6 | (a) |
| Others..... | 0.3 | 0.3 | 1.0 |
| | 100.0% | 100.0% | 100.0% |
| (a) Combined with commercial. | | | |
| (3) Natural gas customers: % | | | |
| Residential..... | 89.3 | 89.5 | 88.9 |
| Commercial..... | 9.8 | 9.7 | 9.4 |
| Industrial..... | 0.8 | 0.7 | 0.8 |
| Others | 0.1 | 0.1 | 0.9 |
| | 100.0% | 100.0% | 100.0% |
| (4) Electric sales (KWH): % | | | |
| Residential..... | 6.5 | 5.6 | 5.2 |
| Commercial..... | 5.9 | 5.5 | 5.3 |
| Industrial..... | 60.8 | 59.6 | 60.0 |
| Railroads, electric utilities, municipal..... | 26.8 | 29.3 | 29.5 |
| | 100.0% | 100.0% | 100.0% |
| (5) Natural gas sales (cu. ft.): % | | | |
| Residential..... | 31.7 | 31.0 | 31.0 |
| Commercial..... | 13.8 | 13.8 | 12.9 |
| Industrial..... | 49.7 | 51.0 | 50.7 |
| Others..... | 4.8 | 4.2 | 5.4 |
| | 100.0% | 100.0% | 100.0% |
| (6) Sales: | | | |
| Electric KWH (000,000)..... | 2,364 | 2,281 | 2,060 |
| Natural gas cu. ft. (000,000) .. | 15,650 | 14,529 | 13,153 |
| (7) Operating statistics: | | | |
| Average KWH residential customer use..... | 1,691 | 1,469 | 1,317 |
| Hydro KWH generated (000,000)..... | 2,485 | 2,485 | 2,266 |
| KWH purchased (net) (000) .. | 193,197 | 130,681 | 82,820 |
| System peak load KW (000) .. | 429 | 400 | 382 |
| Residential average rate per KWH (cents)..... | 2.85 | 3.07 | 3.22 |
| (8) Operating revenue deductions: (000) | | | |
| Operating expenses..... | \$ 5,368 | \$ 4,441 | \$ 4,185 |
| Maintenance..... | 1,404 | 1,076 | 940 |
| Taxes..... | 6,107 | 5,773 | 4,832 |
| Depreciation..... | 1,500 | 1,500 | 1,500 |

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Amortization—limited-term investments | 4 | 4 | 4 |
| Amortization—utility plant acquisition adjustments | 14 | 14 | 14 |
| Total deductions | \$ 14,397 | \$ 12,808 | \$ 11,475 |
| (9) Reserves: (000) | | | |
| Property retirement & depletion | \$ 20,959 | \$ 19,709 | \$ 18,570 |
| Amortization—limited-term investments | 15 | 12 | 8 |
| Amortization—utility plant acquisition adjustments | 52 | 39 | 26 |
| Contingent property adjustment | 17,545 | 18,698 | 18,698 |
| Others | 873 | 737 | 747 |
| Total | \$ 39,444 | \$ 39,195 | \$ 38,049 |
| (10) Preferred stock (cumulative): | | | |
| Authorized shares | 300,000 | 300,000 | 300,000 |
| Outstanding | 159,589 | 159,589 | 159,589 |
| Par value | none | none | none |
| Dividend rate | \$6 | \$6 | \$6 |
| Call price | \$110 | \$110 | \$110 |
| Dividend paid | \$6 | \$6 | \$6 |
| Average price | \$114 | \$114 | \$114 |
| Common stock: | | | |
| Authorized shares (000) . . . | 3,750 | 3,750 | 3,750 |
| Outstanding (000) | 2,482 | 2,482 | 2,482 |
| Par value | none | none | none |
| Dividend paid | \$1.40 | \$1.20 | \$1.00 |
| Average price | \$25 | \$20 | \$16 |
| (11) Earned surplus restricted as to common dividends (000) | \$1,914 | \$1,914 | \$1,914 |
| (12) Current & accrued assets: (000) | | | |
| Cash in banks | \$1,258 | \$3,700 | \$4,216 |
| Special deposits | 163 | 241 | 301 |
| Working funds | 60 | 59 | 61 |
| U. S. Gov't securities | 200 | 1,800 | 1,800 |
| Receivables | 2,108 | 1,792 | 1,618 |
| Materials & supplies | 1,060 | 1,181 | 755 |
| Miscellaneous | 43 | 54 | 18 |
| Total | \$4,892 | \$8,827 | \$8,769 |

Industrial company.

Income Statement (000)

| | | | |
|---|----------------|----------------|----------------|
| Net Sales | \$230,385 | \$181,084 | \$135,202 |
| Cost of goods sold | 139,317 | 119,923 | 88,890 |
| Depreciation | 8,511 | 6,981 | 5,914 |
| Selling, general and administrative expense | 16,259 | 12,950 | 12,061 |
| | <u>164,087</u> | <u>139,854</u> | <u>106,865</u> |

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---------------------------------------|------------------|------------------|-------------------|
| Net operating profit..... | 66,298 | 41,230 | 28,337 |
| Other income..... | 1,037 | 968 | 729 |
| Total income..... | 67,335 | 42,198 | 29,066 |
| Fixed charges..... | 2,286 | 2,138 | 1,430 |
| Net income before federal taxes .. | 65,049 | 40,060 | 27,636 |
| Provision for federal income taxes. . | 25,565 | 15,887 | 11,577 |
| Net income..... | \$ 39,484 | \$ 24,173 | \$ 16,059 |

Balance Sheet
(000)

Assets

| | | | |
|---|-----------|-----------|-----------|
| Current assets: | | | |
| Cash..... | \$ 40,856 | \$ 42,236 | \$ 42,924 |
| U. S. Gov't securities..... | 2,948 | 2,139 | 25,560 |
| Trade accounts receivable, less reserves..... | 17,775 | 14,292 | 10,419 |
| Other receivables..... | 811 | 711 | 421 |
| Inventories .. | 24,508 | 20,655 | 13,745 |
| Total..... | 86,898 | 80,033 | 93,069 |
| Investments..... | 12,315 | 7,301 | 4,544 |
| Fixed assets: | | | |
| Plant & equipment at cost..... | 216,244 | 175,188 | 138,718 |
| Less—reserve for depreciation. . . | 63,234 | 57,215 | 53,062 |
| Net..... | 153,010 | 117,973 | 85,656 |
| Deferred charges..... | 4,428 | 4,178 | 6,159 |
| Miscellaneous..... | — | 20 | 2,517 |
| Total assets .. | \$256,651 | \$209,505 | \$191,945 |

Liabilities

| | | | |
|-----------------------------|-----------|-----------|-----------|
| Funded debt: | | | |
| Notes payable to banks..... | \$ 25,000 | — | — |
| Debentures..... | 61,063 | \$ 63,500 | \$ 65,000 |
| Total funded debt..... | 86,063 | 63,500 | 65,000 |
| Current liabilities..... | 16,446 | 15,931 | 8,306 |
| Reserves: | | | |
| Contingencies..... | 3,461 | 3,461 | 3,461 |
| Other..... | 796 | 1,050 | 945 |
| Total reserves..... | 4,257 | 4,511 | 4,406 |
| Capital stock: | | | |
| First preferred..... | 40,425 | 40,425 | 40,425 |
| Second preferred .. | 14,818 | 14,818 | 14,818 |
| Common..... | 2,206 | 2,206 | 2,206 |
| Total capital stock..... | 57,449 | 57,449 | 57,449 |
| Surplus: | | | |
| Capital..... | 27,298 | 27,298 | 27,298 |
| Earned..... | 65,138 | 40,816 | 29,486 |
| Total surplus..... | 92,436 | 68,114 | 56,784 |
| Total liabilities .. | \$256,651 | \$209,505 | \$191,945 |

Earned Surplus
(000)

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--|------------------|------------------|-------------------|
| Balance, beginning of year (000) | \$40,816 | \$29,486 | \$21,415 |
| Net income for year | 39,484 | 24,173 | 16,059 |
| | <u>\$80,300</u> | <u>\$53,659</u> | <u>\$37,474</u> |
| Deduct: | | | |
| First preferred dividends | \$ 1,995 | \$ 1,995 | \$ 1,995 |
| Second preferred dividends | 1,037 | 1,037 | 1,037 |
| Common dividends | 12,130 | 7,166 | 4,956 |
| Research expenses written off | — | 2,645 | — |
| | <u>\$15,162</u> | <u>\$12,843</u> | <u>\$ 7,988</u> |
| Balance, end of year | \$65,138 | \$40,816 | \$29,486 |

Capital Surplus
(000)

| | | | |
|--------------------------------------|-----------------|-----------------|-----------------|
| Balance, beginning of year | \$27,298 | \$27,298 | \$22,333 |
| Add: | | | |
| Acquired through merger | — | — | 5,103 |
| | <u>\$27,298</u> | <u>\$27,298</u> | <u>\$27,436</u> |
| Deduct: | | | |
| Merger expenses | — | — | 138 |
| Balance, end of year | <u>\$27,298</u> | <u>\$27,298</u> | <u>\$27,298</u> |

Notes to Financial Statements

| | | | |
|---|-----------------|-----------------|-----------------|
| (1) U. S. Gov't securities—market value (000) | \$ 2,943 | \$ 2,134 | \$25,557 |
| (2) Reserve for doubtful accounts (000) | \$ 598 | \$ 468 | \$ 456 |
| (3) Inventories: (000) | | | |
| Raw materials | \$ 4,010 | \$ 4,382 | \$ 3,047 |
| Work in process | 8,385 | 6,541 | 4,301 |
| Finished goods | 8,522 | 6,821 | 4,449 |
| Supplies | 3,591 | 2,911 | 1,948 |
| Total inventories | <u>\$24,508</u> | <u>\$20,655</u> | <u>\$13,745</u> |
| (4) Provision for federal income taxes: (000) | | | |
| Provision | \$25,977 | \$15,487 | \$12,649 |
| Less: U. S. Treasury tax notes . . | <u>25,977</u> | <u>11,730</u> | <u>12,649</u> |
| Net provision | — | \$ 3,757 | — |
| (5) First preferred stock: (cumulative) | | | |
| Authorized shares | 500,000 | 500,000 | 500,000 |
| Outstanding shares | 420,000 | 420,000 | 420,000 |
| Par value | none | none | none |
| Dividend rate | \$4.75 | \$4.75 | \$4.75 |
| Dividend paid | \$4.75 | \$4.75 | \$4.75 |
| Average price | 101 | 102 | 107 |
| Second preferred stock: (cumulative) | | | |
| Authorized shares | 148,179 | 148,179 | 148,179 |
| Outstanding shares | 148,179 | 148,179 | 148,179 |

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Par value. | \$100 | \$100 | \$100 |
| Dividend rate. | 7% | 7% | 7% |
| Dividend paid. | \$7 | \$7 | \$7 |
| Average price. | 131 | 143 | 150 |
| Common stock: (a) | | | |
| Authorized shares (000). . . . | 7,500 | 7,500 | 7,500 |
| Outstanding shares (000) . . . | 5,514 | 5,514 | 5,514 |
| Par value. | none | none | none |
| Dividend paid. | \$2.20 | \$1.30 | \$0.90 |
| Average price. | 31 | 23 | 22 |
| (a) The debenture and bank loan agreements provide that no distribution of cash or other assets may be made to common stockholders unless at the time of the declaration and after giving effect thereto: | | | |
| (1) consolidated earned surplus is at least \$10,000,000 | | | |
| (2) consolidated current assets are at least two and one-half times consolidated current liabilities | | | |
| (3) consolidated net current assets are at least \$25,000,000 (\$35,000,000 under the bank loan agreement) | | | |
| (4) consolidated net tangible assets are at least two and one-quarter times outstanding consolidated funded debt. | | | |
| (6) Expend. plant additions, (000) . | \$41,056 | \$36,470 | \$20,311 |
| (7) Maintenance (000). | \$ 9,399 | \$ 8,481 | \$ 6,888 |

Commercial bank.

Balance Sheet (000)

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| <i>Assets</i> | | | |
| Cash and due from banks. | \$385,031 | \$320,749 | \$250,811 |
| U. S. Gov't securities. | 395,088 | 475,483 | 573,887 |
| Other securities | 8,176 | 3,057 | 3,197 |
| Stock in Federal Reserve bank . . . | 3,150 | 3,088 | 3,088 |
| Loans and discounts. | 429,049 | 377,810 | 290,729 |
| First mortgages on real estate | 2,733 | 4,085 | 6,511 |
| Bank building. | 14,528 | 14,775 | 15,022 |
| Customers' liability for acceptances outstanding. | 2,759 | 5,632 | 3,267 |
| Other assets. | 3,315 | 3,671 | 3,335 |
| Total assets | \$1,243,829 | \$1,208,350 | \$1,149,847 |
| <i>Liabilities</i> | | | |
| Capital Stock. | \$ 50,000 | \$ 50,000 | \$ 50,000 |
| Surplus. | 55,000 | 52,935 | 52,935 |
| Undivided profits. | 11,434 | 11,546 | 9,740 |
| Total capital accounts | 116,434 | 114,481 | 112,675 |
| Deposits. | 1,113,182 | 1,072,860 | 1,021,002 |
| Reserve for taxes and other expenses. . | 2,048 | 2,448 | 3,488 |
| Divided payable. | 1,000 | 1,750 | 1,750 |
| Acceptances: less amount in portfolio | 3,371 | 6,281 | 4,005 |
| Other liabilities. | 7,794 | 10,530 | 6,927 |
| Total liabilities. | \$1,243,829 | \$1,208,350 | \$1,149,847 |

Operating Earnings
(000)

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|--------------------------------------|------------------|------------------|-------------------|
| Operating income: | | | |
| Interest on loans..... | \$ 9,931 | \$ 6,983 | \$ 5,245 |
| Interest and dividends on securities | 6,880 | 8,678 | 11,016 |
| Fiduciary fees, etc..... | 4,275 | 4,000 | 3,165 |
| Total operating income | \$ 21,086 | \$ 19,661 | \$ 19,426 |
| Operating expenses: | | | |
| Salaries and wages..... | \$ 7,387 | \$ 7,043 | \$ 6,125 |
| Other operating expenses. . . . | 3,879 | 3,766 | 3,230 |
| Deposit insurance.... | 768 | 745 | 742 |
| Taxes... | 2,249 | 1,801 | 2,565 |
| Total operating expenses | \$ 14,283 | \$ 13,355 | \$ 12,662 |
| Net operating earnings... | \$ 6,803 | \$ 6,306 | \$ 6,764 |

Summary of Changes in Capital Accounts
(000)

| | | | |
|--|-----------|-----------|-----------|
| Balance, beginning of year. | \$114,481 | \$112,675 | \$110,411 |
| Additions: | | | |
| Net operating earnings. | 6,803 | 6,306 | 6,764 |
| Net securities profits (after taxes) . | 21 | 50 | 255 |
| Recoveries and miscellaneous credits | 125 | 256 | 309 |
| Total additions..... | \$ 6,949 | \$ 6,612 | \$ 7,328 |
| Deductions: | | | |
| Dividends declared..... | 4,000 | 4,000 | 4,000 |
| Transfers to general reserves... . . | 146 | 806 | 1,064 |
| Transfer to reserve for bad debts... | 850 | — | — |
| Total deductions..... | 4,996 | 4,806 | 5,064 |
| Net additions to capital accounts . . | \$ 1,953 | \$ 1,806 | \$ 2,264 |
| Balance, end of year..... | \$116,434 | \$114,481 | \$112,675 |

Notes to Financial Statements

(1) Loans, discounts, mortgages: (000)

| | | | |
|---|-----------|-----------|-----------|
| Commercial, industrial, agricultural..... | \$285,737 | \$295,941 | \$213,459 |
| Purchasing & carrying securities | 35,788 | 25,618 | 13,183 |
| Building construction & consumer..... | 110,257 | 60,336 | 70,598 |
| Total | \$431,782 | \$381,895 | \$297,240 |

(2) Maturity distribution of loan portfolio: %

| | | | |
|-------------------------------|------|------|------|
| On demand & due within 1 year | 73 | 67 | 73 |
| Due in 1 to 2 years..... | 5 | 6 | 4 |
| Due in 2 to 5 years..... | 17 | 17 | 13 |
| Due in more than 5 years..... | 5 | 10 | 10 |
| | 100% | 100% | 100% |

(3) Average rate of interest on all bank loans.....

| | | |
|-------|-------|-------|
| 2.39% | 2.12% | 1.97% |
|-------|-------|-------|

(4) Federal Reserve bank legal requirements:

| | | | |
|--------------------------|-----|-----|-----|
| Net demand deposits..... | 26% | 20% | 20% |
| Time deposits..... | 7½% | 6% | 6% |

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| (5) U. S. Gov't securities: maturity distribution to first call date: % | | | |
| Within 5 years | 83 | 84 | 62 |
| In 5 to 10 years..... | 10 | 7 | 28 |
| In 10 to 15 years..... | 7 | 9 | 10 |
| | <u>100%</u> | <u>100%</u> | <u>100%</u> |
| (6) Distribution of assets: % | | | |
| Cash and due from banks.... | 30.9 | 26.5 | 21.8 |
| U. S. Gov't securities. | 31.8 | 39.4 | 49.9 |
| Other securities | .9 | .5 | .5 |
| Loans and discounts | 34.5 | 31.3 | 25.3 |
| First mortgages on real estate.. | .2 | .3 | .6 |
| Bank building..... | 1.2 | 1.2 | 1.3 |
| Other assets..... | .5 | .8 | .6 |
| | <u>100.0%</u> | <u>100.0%</u> | <u>100.0%</u> |
| (7) General reserves: (000) | | | |
| Balance, beginning of year..... | \$6,763 | \$6,536 | (a) |
| Additions..... | 147 | 806 | (a) |
| | <u>6,910</u> | <u>7,342</u> | <u>(a)</u> |
| Charges..... | 922 | 579 | (a) |
| | <u>\$5,988</u> | <u>\$6,763</u> | <u>(a)</u> |
| Balance, end of year..... | \$5,988 | \$6,763 | (a) |
| Reserve for bad debts..... | 1,400 | — | (a) |
| Total..... | <u>\$7,388</u> | <u>\$6,763</u> | <u>(a)</u> |
| (a) Not reported. | | | |
| (8) Capital stock: | | | |
| Authorized shares (000)..... | 5,000 | 5,000 | 5,000 |
| Outstanding shares (000)..... | 5,000 | 5,000 | 5,000 |
| Par value..... | \$10 | \$10 | \$10 |
| Dividend paid..... | \$0.80 | \$0.80 | \$0.80 |
| Average price..... | \$15 | \$16 | \$18 |

Fire insurance company.

Balance Sheet (000)

| <i>Assets</i> | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| Real estate..... | \$ 5,266 | \$ 5,060 | \$ 5,195 |
| Bonds (book value)..... | 55,515 | 40,330 | 25,538 |
| Stocks (book value)..... | 115,935 | 108,392 | 106,041 |
| Cash..... | 15,950 | 15,077 | 15,596 |
| Agents' balances..... | 11,298 | 10,757 | 7,588 |
| Bills receivable..... | 14 | 117 | 107 |
| Reinsurance due on paid losses..... | 685 | 893 | 715 |
| Due from subsidiaries..... | 67 | 680 | — |
| Other assets..... | 660 | 622 | 851 |
| Market value of stocks over book value | 33,135 | 31,839 | 35,365 |
| Amortized value of bonds over book value..... | 106 | 73 | 388 |
| Interest & rents due & accrued..... | 205 | 127 | 97 |
| Total assets..... | <u>238,836</u> | <u>213,967</u> | <u>197,481</u> |
| Assets not admitted..... | 1,129 | 1,247 | 890 |
| Total admitted assets..... | <u>\$237,707</u> | <u>\$212,720</u> | <u>\$196,591</u> |

| <i>Liabilities</i> | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|----------------------------------|------------------|------------------|-------------------|
| Capital stock | \$ 15,000 | \$ 15,000 | \$ 15,000 |
| Losses & claims unpaid | 25,695 | 23,698 | 18,874 |
| Investigation expenses | 1,028 | 845 | 643 |
| Unearned premiums | 71,287 | 57,633 | 40,245 |
| Accruals | 12,575 | 9,622 | 8,738 |
| Voluntary reserve | 27,122 | 20,922 | 25,591 |
| Contingency reserve | — | — | 2,500 |
| Surplus | 85,000 | 85,000 | 85,000 |
| Total liabilities | \$237,707 | \$212,720 | \$196,591 |

Underwriting Exhibit
(000)

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Premiums written | \$ 91,944 | \$ 77,731 | \$ 49,790 |
| Increase in unearned premium reserve | 13,727 | 17,487 | 7,072 |
| Premiums earned | 78,217 | 60,244 | 42,718 |
| Losses incurred | 39,713 | 30,249 | 23,350 |
| Underwriting expenses | 33,980 | 28,027 | 20,115 |
| Miscellaneous deductions | 118 | 364 | Cr. 82 |
| Total deductions | 73,811 | 64,640 | 43,383 |
| Net underwriting profit | \$ 4,406 | D\$ 4,396 | D\$ 665 |

Investment Exhibit
(000)

| | | | |
|---|----------|-----------|-------------|
| Interest, rents, & dividends earned | \$ 8,573 | \$ 7,434 | \$ 6,877 |
| Investment expense | 825 | 777 | 766 |
| Net investment income | 7,748 | 6,657 | 6,111 |
| Adjustments: | | | |
| Realized investment gain (net) | 4 | 140 | Dr. 749 |
| Gain in value of investments (net) | 1,169 | Dr. 3,978 | Dr. 10,516 |
| | 1,173 | Dr. 3,838 | Dr. 11,265 |
| Net investment profit | \$ 8,921 | \$ 2,819 | Dr. \$5,154 |

Surplus Exhibit
(000)

| | | | |
|---------------------------------------|-----------|-----------|-----------|
| Surplus, beginning of year | \$ 85,000 | \$ 85,000 | \$ 85,061 |
| Net underwriting profit | 4,406 | D 4,396 | D 665 |
| Net investment profit | 8,921 | 2,819 | D 5,154 |
| Miscellaneous credits | 249 | 7,772 | 11,405 |
| Total credits | 98,576 | 91,195 | 90,647 |
| Dividends paid | 4,875 | 4,500 | 4,500 |
| Federal income tax | 2,501 | 271 | 1,147 |
| Transfer to special reserve | 6,200 | — | — |
| Miscellaneous debits | — | 1,424 | — |
| Total debits | 13,576 | 6,195 | 5,647 |
| Surplus, end of year | \$85,000 | \$85,000 | \$85,000 |

Notes to Financial Statements

| | | | |
|----------------------------------|-------|-------|-------|
| (1) Capital stock: | | | |
| Number of shares (000) | 1,500 | 1,500 | 1,500 |
| Par value | \$10 | \$10 | \$10 |
| Dividends | \$3 | \$3 | \$3 |
| Average price | \$102 | \$93 | \$97 |

| | <i>This Year</i> | <i>Last Year</i> | <i>Prev. Year</i> |
|---|------------------|------------------|-------------------|
| (2) Unearned premium reserve—three years ago (000): \$33,244 | | | |
| (3) Increase in total admitted assets and surplus on basis of Dec. 31 market values of securities (000) | \$ 1,713 | \$ 662 | \$ 4,816 |

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